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ABSTRACT

This report reviews the information policies that are concerned with, or relevant to, the scientific and technical information of 17 industrialized countries: Australia, Austria, Canada, Czechoslovakia, Denmark, Finland, France, Germany (Federal Republic), Hungary, Japan, the Netherlands, Norway, Poland, Spain, the United Kingdom, the United States of America, and the Union of Soviet Socialist Republics. Two other countries, Belgium and Sweden, are briefly mentioned. Not all of the policies and practices are examined in the same detail since the objective was to enable applicable lessons to be drawn from the comparisons. The range of information policies currently in operation in the industrialized countries are examined in terms of their long evolution as well as new technological developments and geographical, social, and political influences in each country. The information policies of individual countries are examined to determine how they are established, how awareness of them is disseminated, and how they are implemented. The 107 references listed are in Czechoslovakian, English, French, German, Hungarian, Russian, and Spanish. Additional materials from Czechoslovakia and France are listed separately. (MAB)

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NATIONAL INFORMATION POLICIES:

A review of the situation in seventeen industrialised countries, with particular reference to scientific and technical information

Michael W. Hill

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Fédération Internationale d'Information et de Documentation (FID)

NATIONAL INFORMATION POLICIES

A review of the situation in seventeen industrialised countries, with particular reference to scientific and technical information.

compiled by

Michael W. Hill

on behalf of FID

The International Federation for Information & Documentation

at the request of

the UNESCO General Information Programme

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No. 2 National Information Policies

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FOREWORD

by UNESCO

The present study was carried out to respond to the numerous requests that Unesco received from its Member States concerning the state of national information policies in the industrialized countries. This is the first experience in compiling such information and it should be considered as such by the reader. The document contains a rich information, normally accessible to the public but not easy to locate, on the evolution of information policies in seventeen countries with different social, economic and political structures. It is very likely, however, that this information is not complete and some important material may not be indicated because it was not received. Its presentation could also be probably modified. Despite these unavoidable shortfalls the document provides a first-broad comparative study of the national information policy situations in some of the most important developed States in the world.

The compilation of such a large amount of information was possible only with the active participation of professionals most concerned by these policies. Unesco/PGI thanks the International Federation of Information and Documentation for the assistance provided through its national members who contributed to the study and its President who analysed the material received.

It is hoped that this preliminary effort will be continued and the information contained in this first version will be periodically updated.

Any suggestions or comments to improve the content and the presentation of any future edition will be most welcome.

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PREFACE

In what is commonly called the "Information Age" it will be obvious that the policies of countries towards information in its various manifestations and to the modern information handling and communication technologies are of crucial importance in ensuring proper social and economic progress. This survey, which F.I.D. was requested to carry out on behalf of the U.N.E.S.C.O. P.G.I., aims to look at both the policies and the practices which lie behind their formulation, which assist their dissemination and provide for their implementation as seen during the second half of 1988.

To review all information policies would be a huge task. To keep the study within a six month time scale the original intention was to limit it to scientific and technical information (STI). However, as will be explained, not all the industrialised countries retain this traditional field in a meaningful way. When possible the study has been restricted to STI. As a first alternative it has been limited to a broader field which is still circumscribed and defined by some term such as scientific, technical and economic information or specialised information. When even this was not possible it was decided not to run away from complexity and so, in the case of some countries, the study has been allowed to range more widely.

Policies and practices in seventeen countries are presented in a way which as far as practicable makes comparison possible. The seventeen countries are Australia, Austria, Canada, Czechoslovakia, Denmark, Finland, France, Germany (Federal Republic), Hungary, Japan, the Netherlands, Norway, Poland, Spain, the United Kingdom, the United States of America and the Union of Soviet Socialist Republics. Not all are examined in the same detail since the objective is to enable applicable lessons to be drawn from the comparisons. Two other countries, Belgium and Sweden, get brief mention but attempts to find a source of further details for these were not achieved in time.

In all the industrialised countries, the range of information policies currently in operation owes much to a long evolution as well as to specific events and new technological developments. The policies are also greatly influenced by the geographical, social and political nature of each country. The historical section, chapter 3, therefore tries, albeit briefly, to give some background and context against which to see more clearly the reasons for current policies. Chapter 13, 'Mechanisms changed or abandoned' is also relevant to the evolution of the current situation.

Because certain international regional institutions are active in the field in a way that influences national policies, attention is paid to these, too.

The method used to compile this report involved a mixture of examining as many official publications and articles written by involved government officials as possible, arranging an F.I.D. meeting on the topic, seeking answers to a written questionnaire, see Appendix 6, and holding interviews with many officials and other experts. The help and assistance of a great many people, many of them members of F.I.D., is gratefully acknowledged; they are listed in Appendix 4. However, they should not be held responsible for the views expressed as the compiler, who does accept responsibility, has selected and edited and arranged the material to suit the theme and purpose and in so doing may have inadvertently changed the contributors' intentions.

One important word of warning. This report can be described only as a first stage study, not a definitive comparison. This is because time did not permit the several rounds of questionning and reassessing necessary if each country were to be able to describe its position on topics raised by others which it had not included in its response. This is a weakness in this report which we would wish to be able to be able to rectify in a later version at the same time as updating it.

The project also required FID to amass for UNESCO a collection of official documents on national information policies. These have been delivered to UNESCO so that it now houses a substantial collection of examples of documents including many of the important ones cited in this report.

INTRODUCTION

AIM

The purpose of this report is to review the information policies particularly those concerned with or relevant to scientific and technical information of a number of industrialised countries, how they are established, how awareness of them is disseminated and how they are implemented. Only an outline overview is intended and, in fact, no more would be possible within the short timescale of the study or in a reasonably short report.

As those involved in information policy will be well aware, several countries do not publish their information policies in a single document or even in two or three. It is necessary to piece together a large number of policies each dealing with or related to the information scene. It is also necessary in some countries to examine what is happening in order to deduce what the policies are.

What follows, therefore, is an account, shaped to enable comparisons of certain aspects of practice to be made, of the actual and apparent policies derived or deduced in these several ways.

THE NATURE OF THE POLICY

In an opening presentation at an FID session on the topic of national information policies in 1988 (FID 1), John Martyn said, "Policy is a statement of a specific goal or goals which are to be achieved, or to be pursued; a statement of the means by which realisation of the goals will be brought about; an assignment of the responsibilities for implementation of the means; and a set of rules or guidelines regulating the activity." In the UNESCO publication Guidelines on National Information Policy it is stated that, "the term 'policy' usually means basic principles or assumptions on which a programme of action is based. Alternatively 'policy' is sometimes defined as a 'general plan of action'." In the course of this present study all these types of policy were encountered. No attempt is made here to segregate the categories. Instead it has been found more profitable to take a pragmatic approach and make no distinction particularly since in translation to and from other languages the words policy, strategy, plan and programme tend to overlap in meaning. As is so often the case the translation of a word does not produce a precise synonym.

Another factor which is important in this study is that there are hierarchies of policy making and each is significant.

SCIENTIFIC AND TECHNICAL INFORMATION

A problem of definition which arose early in this study concerned the way in which the term "scientific and technical information", STI, is understood in different countries. This is reviewed in detail in Chapter 1 as it is crucial to the comparisons which follow. Suffice it to say here that it has been necessary to take several different definitions of the field in which to examine information policies in order to produce worthwhile statements of national practice. However, it is recognised that this does give rise to the risk of faulty comparisons but care is taken, as far as is practicable, to ensure that the basis on which comparisons can and cannot be made is clearly expressed.

The original intention was to limit the study to policies concerning scientific and technical information but for several countries this proved impracticable. Although STI is a well recognised and useful term, it is clear that what it encompasses has been continually broadening to such an extent that it seems eventually to include all factual and objectively presented information in contrast to information which is selective and presented in a subjective manner. Thus STI has become so broad that it has been given other names (see chapter 1) and in some countries has become an inseparable part of general information policy field. The commercial and economic importance of STI is such that it can no longer be regarded as the concern solely of the academic community but has, for example, become subject to policies concerned with freedom to disseminate information. Similarly the boundaries between STI in the medical field and personal privacy have been blurred. The consequence is that in countries such as the UK and USA it seems to be impossible to identify a distinct sector of STI policy. On the other hand there are several countries that do still find it useful to maintain STI as a separate sector for policies and programmes (Canada and Japan for example) while others (e.g. Federal Germany and France) are in an intermediate state.

One of the first problems encountered by the researcher is that in several countries the statement is made (orally, not in writing), "We have no information policy". In one country, the UK, one official stated (also orally) that "our policy is not to have an information policy" which very neatly encapsulates the contradictions of the situation. When one examines the situation in detail it is clear that the information field is, in practice, regulated by a series of policies which, while they may not make a coherent whole, nevertheless do add up to an almost comprehensive policy.

On the other hand there are countries, of which Federal Germany and Poland are examples, where the policies for at least STI or a related sector are brought together in a single Programme or Policy Framework.

When comparing attitudes towards information policies in different countries a number of factors need to be kept in mind. One such is the historical background. In most industrialised countries, and in sharp contrast to most developing countries, scientific and technical research has a long and often distinguished history. As a result there will have grown up a number of traditions which are jealously guarded and national policy may, in practice, be quite simply not to interfere, a policy which no government would be likely to state in writing. Research in the physical, chemical and biological sciences may well date back to the times when it was done more or less as a hobby by rich persons with leisure time, even before it became part of university studies. There is, therefore, a tradition of free exchange of information about research and freedom to publish the results in the learned society journals which were founded for just this purpose.

In such a situation, policy will be formulated when it becomes necessary to introduce some limitation on the freedom to communicate. This arises as it is realised that scientific research is not solely an academic pursuit but has importance for economic progress or for national defence. Then rules have to be formulated defining limits to the freedom to exchange or publish scientific information.

The need to formulate policy may also arise if it becomes necessary to remove restrictive practices which have evolved or to stimulate the supply of information to an under-provided area or group of people.

In such cases, as so many others, policies have to be formulated because there are conflicting interests and the balance between them has to be clarified. The need for policies also arises nowadays when new situations are created, often by new discoveries or inventions, so that the traditional practices can no longer satisfactorily meet the requirements. Thus traditions of allowing copying of an author's work had to change when printing made wholesale publishing of pirated works possible and had to change again when photocopying machines became cheap and common.

Indeed, it will be found that one of the two major causes of the generation of new information policies is the need to establish a reasonable and workable set of balances between gaining the maximum benefit from the rush of new information and telecommunication technologies and the avoidance of consequent disadvantage to groups of individuals, organisations or even State interests. The other major cause is the changing role of the State and the extent of its involvement in or funding of certain activities.

Another important aspect is the political tradition of each country. Thus a French official, when explaining the information practices in his country, drew attention to the continuing influence of Colbert (died 1683) on political institutions and practice. Similarly, as an American pointed out, certain aspects of information policy are contained in the U.S.Constitution (1787).

In a country which has had to create political institutions either because it is new or because it has undergone a major revolution, certain basic aspects of information policy may be enshrined in the Constitution. Thus the US Constitution has clauses which define specific aspects of "the collection of information, protection of intellectual property, freedom of speech, privacy, and the responsibility of the Government to record, publish and disseminate information" (US24). In the UK, on the other hand, there is no written Constitution and thus policies which represent changes of practice or limitations to it may have to be differently formulated.

In all countries, industrialised or not, a large number of official organisations are involved in the STI field. This is reviewed in later chapters but it needs always to be borne in mind when trying to compare practices in regard to policy making. In many countries it will be found that there is an organisation with responsibility for at least oversight of the field if not authority for it. In others no single institution has such responsibility. Divisions of responsibility may be made more numerous if the country is a federal one or has divisions based on race or language.

Information policies, whether explicit or implicit, are affected by the general economic, social and cultural policies of a country. Thus a change of national policies in relation to the balance to be maintained between public ownership of utilities and their private ownership, such as the UK has experienced during the 1980's, is reflected in the information service sector. Likewise, rigorous policies of restricting Government and local government expenditure can result in libraries, whose services were previously entirely free and paid for from public funds, having to reconsider their policies with a view to introducing "for profit" services.

The size and economic status of a country is another important factor. It will wish to achieve a reasonable balance between the import and export of information services, since these involve foreign exchange. But small countries usually find that it is difficult to achieve that balance,

especially if the country has a language which is not widely used in the industrialised world. Policies may reflect not only economic anxiety but also antipathy to being dependent on other countries for information and document supply.

Finally in this Introduction, a factor which can have an influence on national policies - much greater in some countries than others - is belonging to an international grouping which has policies and/or practices in the STI field. Thus both the CMEA and the EC countries belong to groupings which have STI policies achieved by consensus among the participating countries. Sometimes observing these policies may lead to better cooperation between the several national organisations involved in each country (FID 1) but this is not always so. Other approaches which can affect national policies are illustrated by NORDINFO (NI 1), an institute for STI set up jointly by all the Nordic countries, and the Glenerin Declaration (GL 1) entered into by officials from three countries though not necessarily formally confirmed as policy by the countries involved.

Chapter 1

THE FIELD TO BE COVERED

Potentially, the field which can be covered by information policies is very wide indeed. At the one end it would include the dissemination of numeric data produced from scientific experiment. At the other end would come libel laws, policies on commercial advertising and freedom of speech. In deciding what to cover, the interests of UNESCO's PGI were borne in mind. This meant concentrating on information for economic, scientific, social and cultural development and hence the initial choice of STI.

However, it quickly emerged that the term STI, though widely recognised, is not used in the same way in each country. As one contributor to this study wrote, "In Norwegian, as in many (most) other languages, the terminology of the information field is rather inaccurate". One question posed to the participants was, "How is the term 'scientific and technical information' interpreted in your country? Is there another term which is preferred to distinguish the field from that of the sort of information conveyed by the popular media and news agencies and, if so, how is it defined?" What follows is drawn not only from the replies but wherever possible from official publications.

Originally, of course, the term meant, as the Canadians still use it, "documented information arising from research and technical development, and the information which scientists and technologists require in their work." While in the UK "science" for a long time meant only the natural sciences,gradually its meaning was broadened to include the applied sciences and engineering. Engineering is a very broad field and includes many interests not normally associated with the natural sciences. Language differences also played their part. The German equivalent of "Science" is 'Wissenschaft' which includes the social sciences. It is also quite common nowadays for the whole range of information for enterprises to be included within the field. The question is, therefore, to be certain whether there is likely to be a common understanding on which national policies will be based.

Spain, it appears, uses the term in its original sense to mean information, including biomedical information, which is research oriented. In France the term started that way but more and more is being interpreted in the broader sense of including the human and social sciences, but not usually financial data. Other terms are coming into use: "information scientifique, technique et économique"; "information specialisée"; and "information stratégique". All four terms are seen as clearly different from "Information Grande Publique", the term used for the type of information contained in mass communications.

The Federal German Program (DE 1) gives a very full definition and uses a different term. It says: "Fachinformation includes, in addition to the findings of science and research, information about the economy and needed in the economic process (eg. money and credit information, enterprise and product information, foreign trade information). It also includes information in the State area (Federal and Länder Governments and local authorities) which is needed for fulfilling State tasks (eg. statistics, health authorities, agriculture, the environment, labour and social affairs)". Austria (AT 2) also uses the term "Fachinformation".

In the Netherlands the term used is "wetenschappelijke en technische informatie" which includes information in the humanities. When it is necessary clearly to distinguish the field from the sort of information conveyed by the popular media etc., the term "professional information" is used, a term which has an even wider meaning since information for enterprises is included.

In Nordic countries generally the term STI seems to be interpreted broadly; it should be noticed that the organisation NORDINFO, set up jointly by these countries, is concerned with, among other things, humanities and social science information and information services for industry. Finland uses the term this way and so does Norway with its term "vitens kapelig og teknisk informasjon". However, there are efforts to use terms corresponding to "specialised" or "professional" information to distinguish the broader sector from "public" information. In the case of Sweden it has been defined (SE 1) in a way which makes reference even to the media: "Scientific and technical information provision serves R & D, higher education and other activities based on documented experience, such as investigations and planning in the public and private sectors and information gathering for the mass media and for private studies. By technical information in a strict sense is meant material of non-scientific character of special significance for industry, such as product data, results of measurements, surveys of particular fields, and patent information." Denmark appears to be an exception in that the term STI is not understood to include the wider fields though, as in the other countries, information strategies apply across the whole of the wider field.

In the CMEA countries the term STI was for a long time used in the original sense but in recent years has included economic and other social science information. Poland uses two terms, "Informacja Naukowa, Techniczna i Ekonomiczna" and "Informacja Naukowa, Techniczna i Organizacyjna" but these may be serving primarily to distinguish the fields of two institutions. From Hungary comes the definition, "including scientific, technical and all information from social and human sciences which affect science and technology directly or indirectly (eg. economic and market information, social and psychological information, finances, etc.)". In Czechoslovakia the official term is "scientific, technical and economic information (STEI)" and is defined in Zbierka zakonov, the legal gazette, (CZ 1) thus:-

"1. As STEI is to be understood knowledge reflecting the state, evolving tendencies and social regularities of science, technology and economics in Czechoslovakia and the world.

"2. STEI from all realms of science, technology and economics purposefully collected, processed, evaluated and used build the STEI system".

In the United Kingdom the term is rather loosely used, often signifying more than just information pertaining to the natural and social sciences and technology but on the whole it seems to be falling into disuse. Most discussions and official documents nowadays simply refer to "Information" it being understood from the context or origin of the document that information other than the sort encountered in popular media is meant.

In the United States of America STI is the term most frequently used to mean scientific (physical, life and social), medical and technical information. An attempt to introduce the more explicit term "scientific, technical and societal information" was not successful and STI remains the prevalent term. However, as in the UK, most documents and discussions nowadays are concerned with "information", the sense in which it is meant being made clear by the context or, if necessary, appropriate adjectives.

In Japan several terms are in use. The literal translation of STI, Kagakugizyutu Zyoho, is used to describe the field covered by the Prime Minister's Science and Technology Council and its Science and Technology Agency. It has a fairly broad meaning. Monbusho, the Ministry of Education and Science which has certain responsibilities distinct from the STA, uses the term "Gakazyutu Zyoho" (literally: "information from

learning") ie. information for academic people. It thus covers not only physical and biological sciences but also the social sciences and humanities. The name in Japanese of NACSIS, Gakuzyutu Zyoho Senta, thus derives from this though it is normally translated into English as "science information". Some Ministries, eg. MITI, use the very broad term "Zyoho" which simply means "information" because they do not need or wish to restrict themselves to science and technology. Another term which is coming into use, particularly in professional circles, is "Senmon Zyoho" which is roughly translated as "specialised information" and is very close in meaning to the German "Fachinformation".

Chapter 2

CURRENT ISSUES

Those responsible for one or several sectors of national information policies face two problems which are related. The first is that at the present time the rate of change of the social and work environments is very large, and the pace of development of the information and communication technologies is a major, though not the only, reason. The consequence of this is that policies have to be evolved or to be updated much more frequently or quickly than has been the case in the past.

The second major problem is that before changing a policy it is desirable to be able to measure just how effective existing policies have been. As the Glenerin Declaration (GL 1) admits, "In so far as present methods of measurement and assessment of information resources are inadequate, new, standardised methods are required for the evaluation of information as an economic resource to be managed and for a proper understanding of information as a productive sector of the economy; these standard measures are essential tools for economic decision-making and negotiations, both national and international; and the needs of all constituencies comprising the information sector must be taken into account."

In all industrialised countries a large number of policy or policy related questions are being studied. The following list does not claim to be complete nor that every question is being studied in every country but most of the questions are being studied by most countries and the difference appears to be only in the priority accorded to each. Issues with only marginal relevance to information policy, e.g. Public Lending Right which is predominantly concerned with lending fiction, are omitted. The questions, in no particular order, are:

1. Balance between public and private sector services. The role of each sector is still being decided including the nature of state responsibility for services which remain in the public sector. In the Planned Economy countries the state is able to work this out from first principles as the private sector is only just becoming a player in the scene. In other countries different types of state role have already emerged such as promoter of innovation, as in France, as provider of seed monies to promote initiatives, as in the UK, or as creator of a market through its purchasing policies, as in the USA. Other issues concern the use of government information by private services and the exploitation of free public sector services for commercial purposes.

2. Freedom of access. The balance between freedom of access to governmental information and the needs of state security is constantly under review in some countries. Recently the realisation that information can be used by other countries to gain economic advantage has led to questions about the sensitivity of technical information whether from official, academic or commercial sources.

3. Personal data. The ability of modern systems to transmit data instantly worldwide and to commercial interests has led to problems of ensuring the individual's right to privacy, and ensuring the accuracy of data concerning him. At the same time the question of whether information on medical records should be made accessible if to do so is in the medical or welfare interests of other persons (eg. that a particular person has AIDS) raises ethical and social questions. Should it be possible for any personnel manager to check with official files whether an applicant for a job has a criminal record or has correctly stated his educational qualifications?

4. Moral and political constraints. Issues here involve freedom to publish or disseminate information which may conflict with accepted obscenity, public decency, race relations, equal opportunities, libel and slander laws or may be deemed subversive or offending against public order. At the same time questions have arisen about the need to avoid suppression of publishing as a weapon either by the state or by pressure groups. Another issue is the question of monitoring or regulating the quality of information, eg. in advertising.

5. Economic and social issues. The balance between free public information and library services and making charges to users continues to be an important issue in several countries. Associated with this is how to avoid the creation of "information rich" and "information poor" segments of the national population. At the same time the new technologies are having a major impact on the workplace and causing people to become unskilled in mid-career. This leads to questions of training and re-training policies and to how to ensure an adequate future supply of the type of labour needed. Current shortages of certain categories of programmers and especially of systems analysts have highlighted the issue. The effect of changes in social habits and consumption patterns have affected and been affected by the information market which all industrialised countries have a policy of trying to expand. Most are also still concerned with making a policy of making the public better aware both of the benefits of the information age and also of the issues it raises ("sensitisation" of the public), including questions of preserving national and local cultural identities: language questions also arise.

6. Copyright issues. Despite legislation passed in recent years, copyright issues continue to arise. The difficulty is that of preserving the rights of generators and disseminators of information, both economic and moral, while at the same time maintaining the public interest in ensuring that information can be used. The law has to be balanced so as not to disadvantage one group unfairly in order to maintain the rights of the other. The new technologies have given rise to a number of copyright questions involving the new medium itself, such as the protection of software and ensuring that it is the material which is protected, not the medium of transport. Policies on archiving material in electronic form are still being evolved.

7. Legal issues. In the information field there are many problems of enforcing the law, as photocopying has illustrated. Policies on how to deal with this situation may never be explicit if the method chosen is to rely on the natural law-abiding habits of the community. However, the legislation must be workable. Also it must be enforceable internationally.

8. Transborder data flow. International enforceability leads naturally to questions of harmonising policies and practices internationally since modern communications systems can transfer information instantaneously across national borders. This applies particularly to national data protection laws and many of the other issues already mentioned as well as to tariff inequalities and measures imposed to protect domestic information and telecommunications industries. Policies of developing an indigenous information industry or of scientific independence inevitably bring up other policy questions of tariff and trade. The information communication needs and practices of multinational companies or even national organisations such as airlines or travel agents that operate internationally lead to other policy questions that need a measure of multi-national harmonisation.

9. Manpower, education, training and retraining. Policy problems in this category have already been mentioned in paragraph 5. In addition there are questions of whether or not professional qualifications should be interchangeable in order to permit mobility of the workforce.

It will not have escaped notice that all these questions relate to information generally and are not specific to STI or even SI. The new information and communication technologies have created a number of issues in which general principles need to be worked out. Yet for STI or SI there are not, at present, many major issues of principle in question other than those of the wider nature. The problems of establishing and maintaining effective systems for STI in the industrialised countries are nowadays those of ways and means, of balancing methods and available resources, rather than those of principle.

Chapter 3

HISTORICAL BACKGROUND TO THE DEVELOPMENT OF INFORMATION POLICIES

As indicated in the introduction, to understand the information policies and practices of each country as they are today, it is helpful to be aware of, among many other factors, the stages through which they have evolved. What follows is, it must be emphasised, only a brief outline of what seem, in each country, to be the key stages.

Of the countries which attract at least mention in this report, six (Australia, Canada, Czechoslovakia, Federal Germany, the USA and the USSR) have a federal structure and the division of responsibilities between the Central Government and the authorities of the individual States can be significant. Ten countries (Austria, Denmark, Finland, France, Hungary, Japan, the Netherlands, Norway, Poland and Spain) do not have a structure of separate States but, of course, questions of regional policies and of delegation to local authorities, eg. for public libraries, can be significant. Two countries, Belgium and the UK may be regarded as intermediate, the former because of the very strong split between the Flemish and Walloon regions, the latter because although in many fields there is central government, nevertheless in fields like education and library services Northern Ireland, Scotland and Wales each have substantial autonomy.

Canada

Crucial to appreciating the Canadian scene is the realisation that not only is it a federal country but it is a very large one (larger than the USA) yet with a small population (one tenth that of the USA) and two official languages.

1919 National Research Council of Canada (NRC) established to coordinate and promote scientific and industrial research. Finds little to coordinate and starts building indigenous scientific capability. As a result takes interest in development of scientific libraries.

1924 Already NRC sees its science library as working with federal and other organisations across Canada to improve access to STI.

1966 Revision of NRC Act (CA 6) establishes NRC's library as the National Science Library and gives permission to make charges for STI services.

1969 National Library Act clarifies role of the National Library, especially in coordinating Federal libraries and operating union catalogue. It also accepts that the NRC library should act as the national library for the natural sciences and engineering.

Tyas (CA 2) and Katz (CA 3) Reports on STI in Canada published. Cabinet decides that a national decentralised STI system should be built by NRC in concert with other existing organisations. It decided against superimposing a new STI agency on the scene as the Tyas Report had recommended. NRC perceived its mandate as improving and extending what it was already doing, namely to create a connected network of voluntarily cooperating agencies. It did not see it as calling for a huge computer system but rather that it should use new technologies as they evolved. Also arrangements were made to enable the STI operations of the NRC to be funded under a separate Parliamentary Vote, thus giving them the visibility and independence of a separate Government Program.

1971. OECD Review confirms strategy adopted by Canada.

1974 Canada Institute of Scientific and Technical Information established by bringing together NRC's National Science Library, its Technical Information Service and its STI Planning and Network Development Office.

1985 New Copyright Act. Maintains registration system.

1987 New National Research Council Act. Confirms that NRC has a duty:

(a) to operate and maintain a national science library
(b) to publish and sell or otherwise distribute STI

1988 Amendment to Copyright Act. Includes computer programs with literary works.

Spain

1953 Formation of the Centre for Information and Documentation under the Industrial Research Section (Patronato "Juan de la Cierva") of the Spanish Research Council. Emphasis, therefore, on serving applied research centres and industry.

1965-69 Other I&D activities starting up. Ministry of Education and Science sets up Commission to examine need for a coordinating mechanism. Recommends requesting OECD to make a survey.

1973 First online terminals from ESA/RECON installed in Institute for Aerospace Research and the Catalonian Documentation Centre.

1974 OECD study published (ES3). Recommends overall planning of STI policy, the development of a five year plan indicating relative roles of government, education, industry and users and including a common homogeneous and coherent computerisation policy. Also recommends establishing a high level Commission for STI, a National Focus to implement its decisions, a technical information liaison network for industry similar to that run for agriculture and that the Patent Office should act as an information dissemination centre in its field.

1975 National Centre for Scientific Information and Documentation, CENIDOC, created within Spanish Research Council. Aim was for CENIDOC to coordinate the STI activities of three institutes; science and technology, ICYT, at the Patronato "Juan de la Cierva"; biomedicine, IBIM, at the Medical Information Centre of Valencia University; and humanities and social sciences, ISOC, at a centre formed by merging the I&D activities of the General Directorate for Libraries and the Humanities Branch of the Research Council.
DIALOG terminal installed at ICYT.

1976 MEDLINE terminal installed at IBIM

1977 Automated Scientific Information Network, Red INCA, founded.

Development of the STI field was affected by the reorganisation of the Spanish Research Council and also of the Spanish Administration (Spain adopted a new Constitution in 1978). One consequence was that while STI remained in the province of the Ministry of Education and Science, responsibility for libraries was transferred to the Ministry of Culture.

Early 1980s. New post of Deputy Director General for I & D established within the General Directorate for Science Policy.

1984 Plan for the development of STI, the "Plan IDOC", published.

France

1959 Among 10 study groups set up by Délégation Générale à la Recherche Scientifique et Technique is one on Documentation, chairman Georges Boutry.

1963 Boutry Report sent to Minister of State for Research. It recommends setting up a committee to coordinate actions.

1968 National Committee for Scientific and Technical Documentation formed. Serves as a study and advisory group.

1971-72 Groupe No. 5, Information Scientifique et Technique, of the Study Groups working on the Sixth National Plan suggests a number of actions.

1973 Bureau National DE l'IST (BNIST) created by decree as part of the Ministry of Research and Industry, later Ministry of Industry. Its role defined as advising on policy and coordinating the documentation activities of other Ministries.

1978 Pierre Aigrain, Secretary of State at the Ministry of Research, announces at a press conference that the Council of Ministers has decided to re-open the question of establishing a national policy for STI. Aigrain report never published.

The very influential Nora and Minc report to the President, L'informatisation de la société, published.

1979 BNIST replaced by MIDIST, Mission Interministérielle de Documentation et d'IST, with the coordinating role re-emphasised.

During the early 1980s the decision to replace printed telephone directories by the electronic system Minitel taken by the PTT.

1985 MIDIST replaced by DIXIT, Délégation a l'Information, la Communication et la Culture Scientifiques et Techniques, under the Minister of Research and Higher Education.

1987 DIXIT replaced by DIST, under the Minister of Research and Technology.

Federal Republic of Germany (BRD)

Germany was formed as a federation of many small states during the 19th Century. After 1945 it was divided into two countries, the DDR and the BRD. In the BRD, the original States, now called Lander, retain a high degree of autonomy which they jealously guard. This includes responsibility for libraries. I & D, however, is a Federal responsibility. The Capital of Federal Germany is Bonn, a small city which is not, unlike Paris, London or Madrid, the commercial, economic and social centre of the country.

1962 Federal Audit Office investigation recommends a national task of making STI&D available through the library system.

1972 Bundesbericht Forschung IV recommends a far reaching programme for the control of the growing problems in I&D which, it says, the I&D centres then existing are incapable of doing.

1974 First Federal I & D Programme, 1974-77.

"At the time it met with approval as a pioneer programme. However, the long-range planning could only be partially realised in the years following. The structural concept had to be adapted to financial conditions, to the rapid developments in information technology and to the

changes in the specialised information market. Questions of location resulted in further changes in the implementation of the programme". (DEI, English edition)

Gesellschaft für Information und Dokumentation, GID, set up to be a main focus for the programme.

1983 An investigation report by the president of the Federal Audit Office recommended a new formulation of specialised information policy.

1985 Programme of the Federal Republic of Germany for Specialized Information 1985-88 published.

Plans to reorganise GID and redistribute some of its tasks announced.

Netherlands

In contrast to the countries so far described, the Netherlands is a relatively small country with its main industrial and administrative cities close to one another. Like Germany, its traditions of scholarly institutions and scientific research go back several centuries. It has many libraries with long and distinguished histories but its main library for science and technology, that of the Technological University of Delft, is of more recent date. The following account is based on ref. NL2.

1921 NIDER, the Netherlands Institute for Information, Documentation and Classification, formed.

1963 The United States Weinberg Report (US6) on Science, Government and Information has the effect of causing the Netherlands Government to initiate reviews of the situation.

1964 Report to the Royal Netherlands Academy of Sciences recommends coordinated approach to establishing information systems.

1968 Bottcher Report to the Ministry of Education, Culture and Science recommends a Foundation be established to stimulate and coordinate the STI sector.

1971 As a result NOBIN, the Netherlands Organisation for Research in Information science formed. NIDER's patent interests are transferred to the technical research organisation, TNO. The remainder is incorporated into NOBIN.

1974 Plevier Report recommends establishing a national information institute.

1976 COBIDOC formed from the Commission for Nuclear and Metallic Information which had been established in 1972. It was concerned initially with bibliography and documentation but was to establish leadership in the online sector.

The Scientific Council for Government Policy, WRR, recommends pursuing principles of the Weinberg Report.

1978 NOBIN produces a five year plan which includes setting up two new institutes, one for bibliography and documentation and one for computerised information work. The latter would provide a focus for working with the EURONET system.

A Minister of State for Science Policy created. However the post disappeared after the 1982 elections. Nevertheless a number of significant studies were made during the period.

1980- Plan put forward to make NOBIN into an advisory body and to develop COBIDOC into the executive agent for the STI field. At this time and in the next few years various plans seemed to envisage NOBIN limiting itself to the field of technical libraries while COBIDOC concentrated on the commercial STI sector.

1982 Royal Library designated as National Library. After that its influence gradually grows.

1986 Decision taken to transfer COBIDOC's field of interest to the private sector and to reshape NOBIN and the Library Council into two new bodies, NBBI and RABIN (see chapter 8).

USSR

In complete contrast to the Netherlands, the USSR is an extremely large country made up of some 15 Republics some with further autonomous Republics within them. A new Constitution was adopted in 1977 which includes, in Section II, a statement of the basic rights and freedoms of individuals. As with the USA there are clauses in the Constitution which are relevant to overall information policy but not specifically to the STI sector.

1955 A Decree of the USSR Council of Ministers creates the USSR Committee for Science and Technology and reorganises the existing Institute of Scientific Information of the Academy of Sciences into the All-Union Institute of Scientific and Technical Information, VINITI, still as part of the Academy of Sciences. The State STI system, SSTIS, had been started by the Institute of Scientific Information prior to 1955.

1960- During the 1960s a number of other All-Union services concerned with the information sector (patents, standards, social sciences, translations etc) came into existence. Thus the basis of a network of All-Union services was built up over a period of about ten years.

1961 By decision of the State Committee for S & T, VINITI is confirmed as the leading organisation for research into STI problems within the SSTIS and hence for coordination of and support for research carried out within SSTIS.

1966 Standard models for the organisational structures of sectoral STI systems adopted by decision of the State Committee.

1967 By similar decision, models for the network of territorial STI bodies were adopted.

1969 CMEA Standing Committee on STI formed. ICSTI established as its operational centre for international services and cooperation.

Since that time there has been steady development of the systems as described in later chapters. Currently policies are being examined in the light of "Perestroika" to see of any adjustments are needed (SU2).

Hungary

1947 First science and technology abstracting journal to be published in Hungarian.

1949 National Documentation Centre, ODK, established by decree of the Council of Ministers. Its aim was to build a coordinated network of documentation centres on the following basis:

1. centralised processing and decentralised servicing
2. processing and services to be charged for
3. to take into account the existing documentation centres
4. the centres should become independent

Among the ODK's tasks were:

a) guidance, organisation and control of documentation tasks
b) study and application of methods
c) education and training in documentation
d) maintaining national registries (eg of translations, persons and equipment) and national services

The ODK set up:

the Technical Documentation Centre based on the library and information centre of the Patent Office. In 1958 this was amalgamated with the Central Technological Library to become the Hungarian National Technical Library and Documentation Centre, OMKDK. In 1966 the patents collections were returned to the Patent Office and an Information centre created there. In 1980 the OMKDK was transformed into the Hungarian Technical Information Centre and Library, OMIKK.

the Medical Documentation Centre which was later amalgated with the Library of the Medical University of Budapest to form the Information Centre and Library for Medicine and Public Health

the Agricultural Documentation Centre which developed into the present Agroinform Information Centre and Library for Agriculture (and the food industry)

the Economic Documentation Centre which was later dissolved and partly incorporated into the Central Library of the Karl Marx University for Economics and partly into other libraries

the Documentation Centre for Librarianship and Documentation, developed within the National Centre for Libraries and which later became the Library and Documentation Centre of the Centre for Library Science and Methodology which exists in the Szechenyi National Library as a policy body for the Ministry of Education and Culture.

1950 ODK abolished. Some registry responsibilities handed over to the Technical Documentation Centre.

1951 First national library conference. Recommended a Library Bill. Legal deposit decree renewed for scientific purposes.

1953 Council on Technical Libraries formed as a policy body by the Ministry of Education and Culture.

1956 Library Bill passed. Its provisions included incorporating information into library work though in the event this proved unsuccessful.

1958 OMKDK formed within the Ministry of Education and Culture.

1962 National Committee on Technical Development, OMFB, formed to advise government on technical policy. It organised a Standing Committee on Documentation.
OMKDK transferred to OMFB.

1969 Council of Ministers establishes a Science Policy Council whose responsibilities include STI policy.
CMEA Standing Committee on STI formed. Co-operation with newly established CMEA international centre ICSTI starts.

1974 Beginning of computer based STI services.

1976 Second Library Bill. It retains network principle, strengthens role of National Library and establishes a national registry of libraries.
Working Group on Social Science established.

1976-78 Major review of STI system undertaken resulting in:-
a) greater delegation of authority for information provision
b) separation of technical and science information. Technical is province of OMFB and is centred on OMKDK. Science information is responsibility of Hungarian Academy of Sciences.
c) collections of travel reports in Ministries centres
d) closer cooperation with centres in other CMEA countries
e) OMFB declared coordinating body for IT.

1980 Formation of a single Ministry of Industry and consequent restructuring of information centres.
First use of online access to foreign databases.

1987 Central registry and deposit of translations cancelled.

Taking the current situation into account, the long term trends seem to indicate a move towards decentralisation and to each authority being responsible for its own information activities. At the same time the separation of technical information from scientific information, only the latter retaining the traditional close links with libraries, is creating a situation which facilitates charging for information services and developing a marketing strategy.

Japan

Japan is a country with a population over half as large as that of the USA but occupying an area less than one twenty fifth of the US. It adopted a new Constitution in 1947 and has faced the problem of changing from a traditional society into a modern industrialised one in a very short period. Its use of information to achieve this has been a notable feature.

1957 Japan Information Center of Science and Technology, JICST, established under Law No. 84.

1969 The National Information System for Science and Technology (NIST) Plan promulgated by the Science and Technology Agency.

1973 The Third Report of the Science Council proposes an improved system of distribution of science information.

1976 Research Center for Library and Information Science established at Tokyo University.

1978 NIST Plan reviewed by the Council for the Promotion of Scientific and Technical Information Activities at the request of the Minister of State for Science and Technology. New list of priorities and policies established.
Science Council study on "A new Plan for a Science Information System" initiated by Minister of Education, Science and Culture.

1980 Science Council reports.

1980-85 Studies by Monbusho, the Ministry of Education, Science and Culture, underway on development and establishment of a National Center for a Science Information System.

1983 Center for Bibliographic Information opened at Tokyo University.

1986 National Center for Science Information System (NACSIS) established as a national Inter-university Research Institute by transforming the Center for Bibliographic Information.

Thus in Japan there have been two parallel streams of activity. Under the STA, the NIST Plan has been pursued with JICST building a wide range first of batch, then of online information services and coordinating the information activities of a number of other institutions. At the same time, under the guidance of Monbusho an academic network of bibliographic and document copy supply activities has been created.
There is also a third element of importance in the STI field, namely the Diet Library which houses an outstanding scientific reference library which is open to the public.

In the separation of the academic and industry oriented information systems, the situation in Japan bears similarities to that which has evolved in Hungary.

United Kingdom of Great Britain and Northern Ireland

1948 Royal Society Scientific Information Conference. Probably the first major post-war study of the problems of accessing, collecting, indexing and abstracting the growing mass of scientific literature. (G.B.16).

1951 The Scientific and Technical Committee of the Advisory Council on Scientific Policy recommends the establishment of two major national science libraries, one for lending and one for reference. Eventually created in the early 1960s these were the National Lending Library for Science and Technology and the National Reference Library for Science and Invention, now both members of the British Library's Science, Technology and Industry Division.

1956 Copyright Act. Regulates production of copies of journal articles (GB 23).

1960 Advisory Council on Scientific Policy recommends research into the growing problems of published scientific information (GB 24).

1964 Public Libraries and Museums Act. Designated library authorities for the whole of England and Wales, allocated to each the duty to provide a comprehensive and efficient library service, and gave the Secretary of State supervisory powers.

1965 Department of Scientific and Industrial Research, DSIR, disbanded. Up to that point it appeared to be trying to develop a role in the STI field similar to that of the NRC in Canada. DSIR's information research activities were transferred to the Ministry of Education and Science (DES) which then set up the Office for Scientific and Technical Information, OSTI, with a remit to sponsor research.

1967 Report of the University Grants Committee's Sub-Committee on Libraries (Parry Report). Includes recommendations on improving national libraries (GB 17).

1969 Report to DES of National Libraries Committee (Dainton Report). Recommends creation of the British Library (GB 26).

1972 British Library Act. Sets up British Library (GB 7), including within it the two national science and technology libraries.

1974 OSTI transferred to British Library to form Research and Development Department.

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1980 Among several Reports by the Cabinet Office's Advisory Council on Applied Research and Development (ACARD) were:

1. Technological Change: Threats and Opportunities for the United Kingdom.

2. Computer Aided Design and Manufacture.

3. Information Technology.

Reports of Select Committee (of Members of Parliament) on Education, Science and Arts, entitled "Information Storage and Retrieval in the British Library Service" make several recommendations concerning co-ordination of information activities and networks, including appointment of a Minister for information policy (GB 19).

1981 Government reply rejects most of proposals (GB 20). British Telecommunications Act. Privatises telecommunications (GB 3).

1982 Information Technology Year, IT82. Government effort to promote extensive use of microcomputers and other IT equipment by industry and the public. Beginning of major effort to "informatise" the public aided by availability of very cheap microcomputers for game playing as well as simple computing.

1984 Publication of report by the Cabinet Office's IT Advisory Panel entitled "Making a business of information". In essence the ITAP Report recommended encouraging the private sector to be the main provider of information services and that Government should make its information available to private sector services. It also recommended the information industry to set up its own trade association (The Confederation of Information and Communication Industries, CICI, was formed that year).

Data Protection Act. Regulates access to personal information held on computer (GB 2).

1985 Copyright (Computer software) Amendment Act. Clarifies protection under copyright for computer software.

1986 Report of the Transbinary Group on Librarianship and Information Studies published. An attempt to study the need and resources for LIS training across the whole of the UK (GB 15).

ITAP Report: Learning to live with IT (GB 13).

ITAP merged into ACARD. (Advisory Council for Applied Research and Development).

1987 Public Library Development Incentive Scheme launched. Aims to improve library services by encouraging local cooperative schemes (GB 6).

ACARD replaced by Council on Exploitable Areas of Science and Technology.

1988 New Copyright Act (incorporates and replaces 1956 and 1985 Acts). Regulates ability of libraries to make photocopies for the public. Aims to encourage licensing and payment for copying in excess of that permitted under the fair dealing clauses (GB 5).

The trend of policy in the UK is to give major emphasis to the development of information technologies, to encourage both the IT and information industries to develop by giving some assistance particularly with R&D projects and to privatise Government activities wherever feasible. As in Japan and some other countries, it appears that library based information activities and those of the information industry including the telecommunication network based transactional systems are seen as only marginally related.

United States of America

It is possible to give only a selection of what seem the key stages in the evaluation of the information scene in the USA. Even limiting the choice to official documents and events means selecting a very small sample from among a huge number.

1966 Freedom of Information Act (FOIA) PL 89-487. Required the Government to make its information readily available, some by active dissemination, the remainder on request (US 17).

1969 Scientific and Technical Communication (SATCOM) Report of the National Academy of Sciences, ie only a semi-official document. Recommends detailed planning by a new agency and a philosophy of shared responsibility between Government and Private sector (US 7).

1972 National Commission on Libraries and Information Science, NCLIS, established as a result of PL 91-345 of 1970 (US 11).

Government in Sunshine Act passed (US 16), which made most meetings of official committees open to the public.

Making Technical Information more useful. Report to the Federal Council for Science and Technology.

National Academy of Sciences report - Libraries and Information Technology (US 5).

1974 Privacy Act PL 93-502 (US 15).

1975 Amendments of FOIA enacted.

NCLIS report - Toward a national program for library and information services: goals for action (US 4).

Senate report - Federal management of STI activities; the role of the National Science Foundation.

1976 Report to the President of the USA by the US Domestic Council Committee - National Information Policy. Among many recommendations, proposed an Office in the White House responsible for information policies. So far not acted upon (US 10).

National Scientific and Technical Policy, Organisation and Priorities Act, PL 94-282. Set up the Office of Science and Technology Policy with a remit to provide a strong STI leadership role. Also assigned the President's Science Advisory Committee (PSAC) the task of considering improvements for handling STI matters.

New Copyright Act. Abolishes need to register copyright and establishes agency to administer collection of fees for copying.

1979 White House Conference on Library and Information Services (US 2) made many recommendations, many of which would have required an open-ended funding commitment.

1980 Paperwork Reduction Act PL 96-511. Laid an important basis of policy for using computerised systems and not issuing unnecessary forms etc (US 12).

1981 National Telecommunications and Information Administration, US Dept. of Commerce, publication Issues in information policy. NTIA-SP-80-9. Contains several reports on questions concerning the creation of information and property rights and access to information (US 25).

1982 US Congress. Senate Committee on Governmental Affairs. Report - "Transfer of United States High Technology to the Soviet Union and Soviet Bloc Nations". From this has arisen the question of limiting transborder flow of high tech and other sensitive data.

NCLIS Report - "Public sector/private sector interaction in providing information services". Discussed the competition between the two sectors and such factors as citizen's right to information from official sources, problems of inability to pay, and need to prevent government services undermining the private sector.

1983 US Congress House Report 98-455. "Who cares about privacy? Oversight of the Privacy Act of 1974 by the Office of Management and Budget and by the Congress".

Senate Committee on Foreign Relations. Report S-PRT 98-94. "International telecommunications and information policy: selected issues for the 1980's". Recommended "coalescing public and private sector efforts to establish policies etc in its dealings with lesser developed countries".

1984 National Cooperation and Research Development Act.

Freedom of Information Reform Act.

Congress Report. "Joint Congressional Hearings on the changing information needs of rural America: the role of libraries and information technology".

National Telecommunications and Information Administration, US Dept of Commerce, Report NTIA 84-144. "Policy implications of information technology".

NCLIS Report - "To preserve the sense of Earth from space". A study of policy implications concerning archiving satellite data in the event of the transfer to the private sector of the US Civil Space Remote - Sensing Satellite Systems (US 9).

1985 Office of Management and Budget, OMB Circular A-130. "Management of Federal Information Resources". (described in Chapter 11 (US 1).

1986 Federal Technology Transfer Act (US 20).

Japanese Technical Literature Act. PL 99-382 (US 21). Establishes within the Dept of Commerce a one million dollar programme to acquire Japanese technical literature and monitor technical activities.

Office of Technology Assessment Report OTA CIT 302 (US 3) "Intellectual property rights in an age of electronics and information". Discusses inadequacies of the existing law and the arguments in favour and against each possible modification of it. Concludes that competing interests give rise to policy questions that resist quick, simple answers.

This sample of significant Acts, reports etc. illustrates that there are many Departments, Congressional committees etc. with a hand in information policy issues and that there are many interacting issues. It seems as though apart from a few basic policies such as using and not duplicating services that are provided by the private sector and leaving each of the major Federal agencies to develop the information policies and practices it needs, policies are in a state of evolution. As new technical developments occur or as each policy is updated to meet new circumstances then each of the other policies has to be reviewed. Each policy issue on its own is difficult enough and it may be that it is felt that to attempt to bring all the issues together would lead to an unworkable situation. If this assumption is correct, then it appears to be shared by the USA, the UK and the French and to some extent by the Nordic countries. On the other hand the Japanese, Germans, Spanish and CMEA countries seem to have evolved integrated policy systems for at least part of the information field, that of specialised information or STI or STEI.

Chapter 4

PRINCIPAL FOCI FOR INFORMATION POLICY

In general the industrialised countries surveyed here can be divided into four categories, though the boundaries between the categories are not entirely clear cut:

1. those that have science and technology programmes and treat STI as a component of or companion to those programmes, eg. Canada, Spain, Japan, the USSR, Czechoslovakia, Hungary and Poland.

2. those where a Ministry has assumed responsibility (presumably with the agreement of the Council of Ministers) for establishing a programme for the specialised information field covering the wider interests both of its own and of other Ministries, eg. Austria and Federal Germany.

3. those that have a Committee of Ministers who have been given responsibility for information policy, eg. the Netherlands and at one stage, Australia.

4. those that have no overall focus for information or STI policy other than the full Cabinet of Ministers itself, eg. France, the UK and the USA.

In this last category unwillingness to delegate responsibility for co-ordination of information policy as a whole has to be inferred in the case of the USA from the lack of response to the proposal in the 1976 National Information Policy Report (US 10) that an Office of Information Policy be established in the Executive Office of the President.

A similar reluctance in the UK is openly expressed in the Government's reply to the Reports of a House of Commons Select Committee (GB 20) where it says:

"7. The term "information policy" is very wide and has no precise definition. In the context of this reply .... it is taken to exclude policy on such matters as .... access to official records.

8. The Government intends to follow as far as is practicable this principle ... that libraries and information services should be regarded as a single area of concern .... (However) many such services have developed .... from the special needs of user institutions, for example in respect of scientific and technological information. .... A number of Departments are involved, including the Department of Industry where the PM has designated a Minister of State to be responsible for information technology. It would therefore be inappropriate to concentrate executive responsibility in the hands of one Minister.

9. .... any national policy on information services must be of a very general and flexible kind, allowing the maximum freedom to individual Departments to maintain and develop services ... It follows that individual Ministers must remain free to take whatever decisions they consider necessary in their particular fields. To the extent that it may be necessary from time to time for an initiative to be taken on a matter not within a defined Departmental interest the Government will look to the Minister for the Arts to raise the matter with those of his colleagues who appear to have an actual or potential interest.... so that appropriate action can be taken."

It appears likely that this broadly expresses the feeling of the present French and US Governments though their ways of raising matters "not within a defined Departmental interest" differ. Nor would either regard a Minister of the Arts a suitable link person.

In the UK then there is nobody with authority for policy formulation but the Department of Trade and Industry has responsibility for encouraging the exploitation of Government information and the Department of Arts and Libraries has been given a "good offices" role and can, of course, raise any very major problem with the Cabinet or PM. Similarly in the USA there exists the National Commission on Libraries and Information Services, NCLIS, with a broad general remit but no executive authority over the affairs of Government Departments.

France, which once had an Interministerial organisation for STI, namely MIDIST, now has no central authority other than the PM and French Cabinet. The Ministry of Research and Technology, is assisted in its responsibilities by the Délégation à l'Information Scientifique et Technique (DIST) which however has no obvious national policy role. Several other Government Departments have their Direction de l'IST but apparently there is no coordination.

Belgium also lacks any central policy body for the field now that the body which once served in that role, the Centre d'Information et Documentation Scientifique et Technique, CIDST, has had its status changed.

In Federal Germany responsibility for evolving overall policies for Fachinformation is vested in the Bundesministerium für Forschung und Technologie (BMFT). In Austria similar responsibilities are given to the Bundesministerium für Wissenschaft und Forschung.

In the Nordic countries the situation is not dissimilar in terms of responsibility even though individual overall policies have not been published. In Finland the Ministry of Education has the main responsibility for national policy on STI assisted by its agency TINFO (see Chapter 9); in Norway it is the Ministry of Cultural and Scientific Affairs; in Denmark it is DANDOK which is a consultative and coordinating body under the Ministry of Education. The situation in Sweden where the principal agency, the Delegation for STI, has recently been abolished is at present not clear. However, in this region the position vis à vis information policy of the Nordic Council of Ministers should not be overlooked, particularly as it was responsible for setting up NORDINFO.

In the Netherlands, "Coordination of the information policy at the political decision-making level rests with a committee from the Council of Ministers, the Ministerial Committee for Information Policy (MCI). The members of this committee the Ministers of Education and Science, of Economic Affairs, of the Interior and of Transport and Construction, under the Chairmanship of the PM, prepare (sic) the subjects in the field of information policy which are of common concern to them all. It is their responsibility to make political decisions and many significant matters - such as telecommunication, media policy, supply of equipment and STI supply - have been prepared here." (NL1)

In Australia the situation is not entirely clear. In 1983 a committee of four Ministers was appointed to progress the plan for a national information policy and an interdepartmental committee of Australian government officials was formed to help. Recently, however, it seems that the attempts to arrive at an information policy have been abandoned and if so presumably the committee of Ministers has been disbanded.

In the CMEA countries and in Spain, Canada and Japan the key factor is a national body concerned with science and technology which acts as the parent for STI activities and hence with policies. In the USSR this is

the State Committee for Science and Technology at the National Academy of Sciences, a Deputy Chairman of which has responsibility for the STI sector.

In Czechoslovakia it is the State Commission for Science, Technology and Investments which is headed by one of the Vice Presidents of the Federal Government. It is supported in the information field by its Centre for STEI (UVTEI). In Hungary, where responsibility for scientific information and for technical information has been divided, the National Committee on Technical Developments is responsible for technical information and the Hungarian Academy of Sciences, acting in lieu of a Ministry, for that in the natural and social sciences. In Poland under the Council of Ministers is the Office for the Promotion of Progress in Science, Technology and Development which is under the Direct supervision of the PM. This is responsible for information policy in the STEI field and is supported by its Institution for Scientific, Technical and Economic Information (IINTE).

In Spain policy is in the hands of the Interministerial Commission for Science and Technology, serving which is a General Secretariat for the National Plan of Scientific Investigation and Technological Development in which there is a Vice-Secretariat for STI.

In Canada there is a Minister of State for Science and Technology who is advised by a Science Council of Canada but the key is a mandate given by the Cabinet in 1969 to the National Research Council (NRC) "to build a decentralised national STI system, in concert with existing organisations." As an implementing agency the NRC created the Canada Institute for Scientific and Technical Information (CISTI).

In Japan the situation has similarities to both the CMEA and Canadian scenes. There is a Science and Technology Council, chaired by the PM and consisting of five Ministers including the Finance Minister and six other persons, experts in S and T, among them the Chairman of the Science Council of Japan. Under this Council is the Science and Technology Agency (STA) which is the executive body. However, the Ministry of Education and Science, Monbusho, has policy responsibilities in the field of scientific information which would appear to overlap with those of the STA but in practice are limited to information services for university research.

Chapter 5

RESPONSIBILITIES FOR COMPONENT SECTORS OF STI WORK

Whether or not there is a central authority for the whole information policy field or for just the STI (or STEI) sector, it is found in most industrialised countries that a great many other Ministries and Agencies have policy making roles for information matters in their specific area of responsibility. In the USA, for example, a 1980 report for the National Science Foundation (US 26) identified 196 official organisations which handled STI for the Federal government alone, and that omits those in organisations belonging to the individual States.

In the USSR All-Union information centres are responsible for building up files of primary publications from all countries. After their centralised analytic and synthetic processing, each publishes bibliographic, abstract and survey information. Each centre has a specified role and within its defined limits provides systematically arranged information to national management bodies, R&D Institutes, enterprises as well as to other institutions in the SSTIS.

Because the responsibilities for each sector are not the same in all countries (for example, copyright falls within the province of the Ministry of Education and Culture in Hungary but in the UK is administered by the Patent Office which is in the Department of Trade and Industry) a number of the important sectors are listed below together with where the responsibility for each lies in the countries surveyed.

Libraries Policy towards libraries is a component of all national information policies. The importance of publications which carry information, whether in paper or electronic form, is accepted everywhere. However, the position of libraries in the information scene is ambivalent and, especially in the STI field, opinion on their significance varies from one country to another. Special libraries are a key component of the STI scene but, since they are commonly the library of an institution or enterprise, most are outside the direct remit of most national policies. The exceptions are those which belong to national organisations or are institutions in their own right. Public libraries have an important role in all countries in education and in culture but only a few, the major ones, play a significant part in STI. Academic, research and national libraries, however, usually have a major role. It is perhaps noteworthy that the Federal German Fachinformationsprogramm refers only to the six major central libraries and to those with special collections supported by the German Research Society. Also, until recently, the policies of the Commission of the European Communities for the development of the information market largely ignored libraries. On the other hand, in the Nordic countries libraries of all categories play a major role in the STI field.

Responsibility for library policy is divided in most countries. Not only may more than one Ministry be involved but also in countries which have a Federal structure or are composed of two or three countries each separate state may have responsibility for its libraries.

France: University libraries - Direction des Bibliothèques, des Musées et de l'Information Scientifique et Technique (DBMIST) of the Ministry of Education
National and major public libraries (Bibliothèque Nationale, Bibliothèque Publique d'Information, bibliothèques classées de quelques grandes villes) - Ministry of Culture and Communication
Other city and central lending libraries - local authorities

Spain: State owned libraries (the National Library and the network of public libraries) - Ministry of Culture which includes a Centre for Library Coordination.

Norway: Ministry of Cultural and Scientific Affairs. Under this Ministry there have been created two bodies with responsibility for elaborating policies: the National Office for Research and Special Libraries; and the Norwegian Directorate for Public and School Libraries. The responsibilities of the latter are defined by Act No.108 of 1985 Relating to Public Libraries.

Finland: Public libraries - National Board of General Education
Academic Libraries - Ministry of Education (80% of Finnish research and scientific libraries are in academic institutions and Helsinki University Library carries out the functions of a national library.

Netherlands:
Public libraries - Ministry of Welfare, Public Health and Cultural Affairs (WVC). However, responsibility is being transferred to local authorities so that the WVC limits itself to national projects for automation and computerization and to "public lending right".
National and research libraries - the Ministry of Education and Science.

Czechoslovakia:
Libraries are the responsibility of the two Ministries of Culture, one in the Czech Republic and one in the Slovak one. Coordination has been ensured by an agreement signed between them and UVTEI.

Hungary: The Ministry of Education and Culture, directly for the National and Parliament libraries, indirectly through local authorities for the public libraries and through relevant Ministries, Trade Union Council etc for special libraries.

Japan: Academic libraries - Ministry of Education and Science (Monbusho)
Diet Library - the National Parliament (Diet)
New legal deposit libraries - Ministry of Internal Affairs. Also public libraries though these are administered by local authorities.

Federal Republic of Germany:
Apart from the Deutsche Bibliothek and the Central Agricultural Library, both of which are Federally run, the various state (Länder) authorities have a very large say in library administration and policy.

UK: There are three national pan-discipline libraries: the British Library created by Act of Parliament in 1972; the National Library of Scotland responsible to the Scottish Education Department; and the National Library of Wales under the Welsh Office
Library policy in general is the province of the Office of Arts and Libraries which has specific responsibility for the public library sector though in practice, public libraries are the responsibility of local authorities. In addition the Northern Ireland Office, the Scottish Office and the Welsh Office each has responsibilities for libraries in their countries.

Canada: The National Library of Canada operates under the authority of its Act. It may also coordinate the libraries of Federal Departments and Agencies but, as indicated earlier, the scientific and technical field has been allocated by Act to the National Research Council and hence to CISTI.

USA: The National Commission on Libraries and Information Services (NCLIS) has a general role but direct control is exercised by a wide variety of Federal, Departmental and State authorities.
The National Library (The Library of Congress) is under the control of Congress.
The very extensive system of Depository Libraries, of which there are several in each State, is a major factor in making access to official publications easy for everyone.

Archives Although these do not generally figure in STI or even Fachinformation programs (Austria and Sweden are exceptions) nevertheless they are significant components of the general information field and hence figure in national policies. Thus the policy in the UK that Cabinet Papers must remain secret for 30 years affects the national archive which is the Public Record Office.

The various national authorities responsible for archives policy are (though it must be remembered that local authorities are often autonomous in this field):-

France	- Ministry of Culture and Communications
Spain	- Ministry of Culture
Denmark	- Ministry of Industry (for STI field)
Finland	- Ministry of Education
Norway	- Ministry of Culture and Scientific Affairs
Czechoslovakia	- The Czech and the Slovak Ministries of the Interior
Hungary	- Ministry of Education and Culture
Japan	- At present no central authority
UK	- Lord Chancellor's Office
Canada	- the National Archives by authority of the Public Archives Act
USA	- National Archives and Records Administration

Information Technology Whether the "national information policy" should embrace policies on information technology (or informatics) is a moot point. Certainly it has given rise to the comment that "IT often forgets the I" (information technology forgets the information). In the USA, the OMB Circular (US 1) on the Management of Information Resources incorporates instructions to agencies only on the use of information technology. In the UK the Government considered the existence of a Minister for Information Technology a reason for not having a national focus for information policy (GB 20).

Whatever the view, the impact of information technologies on information policies has been so substantial that it is essential when examining the latter to keep aware of the former.

In all industrialised countries there have been policies of encouraging the use of computers and other forms of information technology by industry and commerce to increase their efficiency and reduce labour costs. At the same time there have been policies of encouraging indigenous manufacturing of hardware and the development of a software industry.

When only large, expensive computers were being produced, maintenance of a manufacturing capability was possible in only a few countries (France, Federal Germany, Japan, UK, USA, USSR) but in all the development of the electronics industry was encouraged. As inexpensive microcomputers have come along, most countries have been able to develop manufacturing units.

Responsibility for government policy on these developments has in all countries been centred on the Ministry for Industry, called by different names in different countries, commonly in collaboration with the Ministry responsible for communications if, as in Canada, this is separate.

Telecommunications As will be obvious, tele-communications policies and practices are also very important to the information sector, so much so that many of their policies are, in fact, information policies. The responsible Government ministries are listed below but it is worth noting that in two countries, the UK and USA, telecommunications are run by the private sector, not by Government. In the USA policy has been to break up the big AT & T monopoly and in the UK it has been to privatise what had been a state monopoly and to encourage competition. In Denmark the monopoly of the telecommunications authority has been ended. It is also worth noting that the practise of referring to the "PTTs" can now be misleading as the Post and the Telecommunications can be separate authorities.

France:	Ministry of Postes and Telecommunications (Franc-Telephone has been privatised but the State is still the largest single shareholder)
Spain:	Ministry of Industry and Energy; Directorate of Electronics and Informatics
Finland:	Ministry of Transportation; General Directorate of Posts and Telecommunications
Norway:	Ministry of Transport and Telecommunications
Netherlands:	Ministry of Transport and Construction
Czechoslovakia:	Ministry of Transport and Communications
Hungary:	The PTT is directly under the Council of Ministers
Japan:	Ministry of Communications. There are two tele-communications agencies, one for communications within Japan, and one for international channels
UK:	Ministry of Trade and Industry. But British Telecom and Mercury Communications are both private sector organisations
Canada:	Department of Communications (DOC). There are many communications carriers in Canada regulated by the Canadian Radio-television and Telecommunications Commission which reports to Parliament through the DOC
USA:	two agencies are involved at the policy level:- Federal Communications Commission and the National Telecommunications and Information Administration

The need to get international agreement on telecommunications has been a major problem. In some countries problems with the national authority have led to establishing private communication networks mainly for transactional data among a limited group of clients. Internationally other bodies concerned with information have taken initiatives.

One early example was the decision of groups of countries to cooperate in order to create networks for the communication of bibliographic information, Euronet in the CEC countries, ICSTI in the CMEA countries and SCANNET in the Nordic countries.

Particularly interesting at the national level was the decision of the French Telephone authority to replace paper telephone directories by a videotex system called Minitel. The free distribution of terminals not only helped develop a manufacturing industry but provided the basis for the growth of a huge database and electronic mail industry. It has also led to the need for policies on whether there should be any restrictions in the public interest on the nature of what is advertised or displayed on such systems.

Copyright Copyright policy has been under intense discussion in the last twenty years, initially, because of the consequences of cheap, widely available photocopying machines and more recently because existing copyright laws do not adequately provide for computer software. The UK has just passed a new Copyright Act and a new one is being prepared in Canada. The European Commission is also reviewing the law with a view to harmonising practice among the member states.

The national focus for copyright policy varies between countries. In France it is retained by the Parliament. In Canada and the UK the Copyright Office is attached to the Patent Office. In Spain, Hungary and Norway it is the Ministry of Culture; in Finland and Japan it is the Ministry of Education; in the Netherlands it is the Ministry of Justice; and in the USA it is a responsibility of the Library of Congress.

There are two international copyright conventions: the Berne Convention administered by WIPO; and the Universal Copyright Convention administered by UNESCO. All the countries reviewed in this Report have acceded to both Conventions (the USA acceded to the Berne Convention as recently as November 1988) with the exception of the USSR which has not yet acceded to the Berne one.

Education and training of information professionals One would expect the E & T of information professions to feature among national information policies but this is not always the case it would seem. Those countries that have an information plan or programme, such as Spain or Federal Germany, or a structured framework for the establishment of an information policy, such as Austria and Poland, include development of training facilities in their stated policy objectives. Thus in the German Fachinformationsprogramm it says: "It will be decisive for the development of specialised information that professionally trained staff are available. For this it is necessary to:

1. intensify the specialised information component in education at university and technical colleges with the aim of improving professional qualifications:

2. extend in-service training for staff working in specialised information."

In many countries there seems to be a policy of leave it to the educational establishments and the profession itself to decide what courses and how many are run. Whether the mix of graduate, postgraduate and post experience courses that results or whether the common but not universal practice of combining librarianship and information science are really producing the range and quality of professionals required by the modern information industry is not a matter within the remit of this study. What is within it is the fact that although, in principle, the national Ministry of Education (or Higher Education) is responsible for national policies in this sector, there seems in many western countries to be no clear policy guidance.

In the UK and USA, but not in France, library information science courses require approval by professional institutes. Courses on computer science do not require similar approval and the situation with courses on other aspects of information work varies.

In Japan three national universities run courses in library and information science but the situation is complicated by over 200 private universities which claim to run information courses.

Chapter 6

OTHER SECTORAL DIVISIONS OF RESPONSIBILITY

In addition to the sectors described in the last chapter, there are a number of other fields of activity which are of major concern to STI Policy. In some countries the STI activities of these is carefully co-ordinated with the main STI Plan, as in Federal Germany and the USSR. However, this is not always the case and in some countries such cooperation as there is is, it appears, on a voluntary basis. In such countries it does seem that acceptance that each Ministry is responsible for information policy and practice in its sector does work even if there are small problems of overlap or gaps from time to time. Practice in the division of responsibilities for a sector and for policies regarding the collection, provision and dissemination of information vary from country to country. Although there are broad similarities, awareness of these difficulties can be vital to those seeking information from sources abroad.

Some specific sectors which tend to have their own information policies, whether created separately or as a component of a comprehensive STI policy, are:

medicine - A field generally treated separately from STI though included within SI. Policies regarding the provision of medical and health information are normally the responsibility of the relevant Ministry but the medical professional bodies also have a very strong influence. Sometimes, as exemplified by the German DIMDI and the US National Library of Medicine, what started as a sectoral activity can at national level grow into a major one of international significance.

agriculture - Another sector generally treated separately from STI, with the ministries of agriculture accepting responsibility for policy and feeling a special responsibility for ensuring that information can be provided to farmers.

food - ministries responsible for food are nowadays increasingly concerned with policies on food labelling and with the provision of factual information about foodstuffs. On policies concerning information on diet conflict can arise with the two other Ministries just mentioned.

patents - the patent system is based on the principle of making information about patented inventions available to the public. Most patent offices in industrialised countries go further than just publishing patent documents and have a policy of developing information services for the public (through an agency JAPIO in the case of Japan). This includes the development of national databases, and collaborating through INPADOC in the development of integrated international databases. Patent Offices in a number of countries, - Denmark, France, Germany, Japan, UK, USA and USSR - have a policy of ensuring regional access to collections of patent documents and several of these provide other services to those regional centres. The Austrian Patent Office has been notable for its innovation in introducing an information service for the patent offices of developing countries as well as setting up the International Patent Documentation Centre, INPADOC.

standards - standards are an important source of information, especially for industry. Most national standards organisations are semi-autonomous bodies, supported by a government department, but in many countries the situation is complicated by the existence of a number of semi-official and trade organisations with responsibility for setting standards in their particular field. In the USSR there is a single body, the All-Union Research Institute of Technical Information, Classification and Coding, VNIIKI, but in Canada, for example, standards for library documentation are a National Library of Canada responsibility. In the UK access to information about standards has been helped by the creation of a unit called Technical Help for Exporters, THE. Nevertheless, despite various individual initiatives and the efforts of the ISO and its ISONET, to which all the industrialised countries belong, national information policies on standards seem to need review.

Policies of letting each Ministry be responsible for information matters in its field mean that there are also a number of other sectors whose policies on information are highly relevant to STI policy overall. These include environment. Of concern to the wider information field are, of course, the policies of the Ministry of Internal Affairs (Home Office) and of the Government's Central Statistical Office. These go under different names in different countries. Responsibilities for maintaining translations of foreign publications have featured highly in some countries, notably Eastern European countries such as Hungary and the USSR, but in the West the initiative has usually been left to the profession. An exception is Japan where there has been considerable investment of official funds in automatic translation systems. Similar work has also been encouraged as part of the information policies of the European Community.

The USSR All-Union Institutes

In the USSR on the other hand there is considerable coordination in the information field. As will be described in Chapter II, in the USSR the State STI system, SSTIS, operates on the basis of a very large network of all-union, central branch, republic, inter-branch territorial and local information organisations. The all-union information centres are responsible for building up the files of primary documents from all countries. Each all- union centre specialises in handling specific kinds of documents:

the All-Union Institute of Scientific and Technical Information, VINITI, handles literature in the natural, exact and applied sciences.

the Institute of Scientific Information in Social Sciences, INION, does the same for the literature of the social sciences.

the All-Union Book Chamber, VKP, handles all kinds of national book publications.

the All-Union Scientific and Technical Information Centre, VNTI Centre, covers unpublished R&D reports, theses, algorithms and programs.

the "POISK" Amalgamation of the State Committee for Inventions and Discoveries handles domestic and foreign industrial property documents, eg. patent specifications.

the All-Union Research Institute of Technical Information, Classification and Coding, VNIIKI, handles standards and related documents.

the All-Union Information Centre on Equipment, VTsIO, handles trade catalogues and lists of industrial equipment.

the All-Union Centre for Translations of Scientific and Technical Literature and Documents, VTsP, makes and coordinates translations.

the USSR National Library for Science and Technology, GPNTB, creates union lists of the holdings of other libraries throughout the USSR.

the All-Union Exhibition of Economic Achievements, VDNKh, provides material about expositions and promotes awareness of science and technology.

Chapter 7

DOCUMENTATION CENTRES, INFORMATION ANALYSIS CENTRES AND OTHER SPECIALISED INFORMATION CENTRES

It does not appear that the information policies of the industrialised countries envisage setting up any documentation or information analysis centres. However, the reason for this is not that they are deemed unnecessary but rather that a sufficient number exist already and that the combination of the existing infrastructure of R&D and information facilities, combined in the market economy countries with the activities of the private sector, are sufficient to bring any new ones needed into existence as and when required. The set of USSR All-Union centres just listed indicates the extent to which such centres already exist and are vital to the national STI system which is a network of cooperating institutions. Indeed, VINITI is probably the outstanding example of a documentation centre, its output being the huge Referativnyi Zhurnal.

The existence of sufficient documentation centres does not mean that the situation is necessarily static. France has recently been making changes by merging two of its centres, the CDST and the CDSH, to form a new one INIST. The result intended is not just strengthening and rationalisation but also a greatly improved document supply capability.

A great many specialised I & D centres exist in most of the other countries and some, notably those in research centres, have become in effect, if not in name, both documentation and information analysis centres.

In the Federal German Program the continued development of a set of Government supported specialised information establishments is a focal part of the policy, though the plan to create a much greater number of them, as envisaged in an earlier program has been abandoned. They are:-

FIZ Chemie GmbH
FIZ Energie, Physik, Mathematik GmbH
GEOFIZ
FIZ Technik
FIZ Werkstoffe
German Information Centre for Technical Rules
Information Centre for Planning and Constructions of the Fraunhofer Society
Information Centre for Social Sciences
German Institute for Medical Documentation and Information
Central Office for Agriculture Documentation and Information

In addition several Ministries maintain databank services.

In the Netherlands a number of Ministries and other Government organisations run documentation services many of which are now in the form of computerised databases. One of the best known official systems is that of PUDOC, the Centre for Agricultural Publishing and Documentation.

The Japanese NIST Plan also has a policy of drawing existing documentation and information centres, such as the Oceanographic Data Centre, JAICI, and JAPIC, into a network focussed on JICST.

The Czechoslovak STEI system also adopted the policy of coordinating the activities of a number of specialised centres. Prominent among these are the Institute for Applied Cybernetics, the Centre for Information on Inventions, and the Institute for Standardization and Measurements. There are also some 36 sectoral centres each cooperating with UVTEI, the National Centre for STI.

Hungary has its National Information Centre and Library for Medicine and Public Health, a National Agricultural Library and Information Centre and an economic information centre at the Karl Marx University for Economics. The Economic Information Unit at the Institute of Economics, Academy of Sciences, has been used recently for a case study of information analysis centres carried out for UNESCO.

In France, the UK and the USA there are a large number of specialised information and documentation centres, many acting as IACs, but it cannot be said that there is a national policy of setting them up or of co-ordinating them (though, as illustrated above, government ones can be merged or changed in other ways). Most in the UK and USA are in the private sector, BIOSIS, Chemical Abstracts, Derwent, EI and INSPEC being well known examples, but some are based in government organisations such as research associations. Outside the STI field, the Congressional Research Service based in the Library of Congress is an outstanding example of an IAC (and, incidentally, of the fact that there is no real distinction between an IAC and an information centre or service nowadays). In the USA official support where necessary is exemplified in the activities of the I & D services of the National Libraries of Medicine and of Agriculture. In France the CNRS centres, INPI and l'Institut National de la Statistique et des Etudes Economiques provide specialised documentation and IAC type services. In Austria the official organisation INPADOC is an example of a combined documentation and information analysis centre, though the analytic work is largely confined to documentary and legal status aspects.

The Nordic countries also have specialised documentation and information analysis centres, though not usually known as such. One particularly eminent one is the Danish Technical Information Service, DTO.

It could, perhaps, be concluded that industrialised countries in the 1950s, 1960s and early 1970s found a need to create these centres and thus had a policy of stimulating their development. But, the information scene in each country has now developed to the stage that the normal mechanisms for meeting the need for new services are able to take such requirements in their stride.

Chapter 8

COORDINATION AND ADVISORY BODIES

Since there are a variety of Ministries and other executive organisations involved in the information field, the question of whether a mechanism for achieving coordination or at least cooperation to avoid unnecessary duplication of effort or even conflicting policies does arise from time to time. The ultimate authority is, of course, the PM and the Council of Ministers, or Cabinet as the group of most important Ministers is sometimes called. Some countries tend to keep resolution of problems at this level. Others consider that it can be delegated and it is the bodies which have been charged with the task of coordinating or ensuring cooperation which are identified in what follows.

A variety of institutions have been created for this task. Not all still exist. In addition there are high level advisory bodies which can draw the attention of either this institution or that particular Minister to the need to establish or clarify policies.

In the Netherlands coordination rests with a committee from the council of ministers, the Ministerial Committee for Information Policy (MCI) which is chaired by the PM. It is assisted by official advisory committees such as the Interdepartmental Committee for Information Policy (ICI). Two important new organisations are:

RABIN, the Advisory Council for Librarianship and Information Management, which will advise on librarianship and information supply policy, for use in both science and industry.

NBBI, the Netherlands Bureau for Librarianship and Information Management, which has executive responsibility for project co-ordination, promotion and initiation.

In Federal Germany it is clear from the Fachinformationsprogramm that coordination of the policies and achieving cooperation between interested parties is the responsibility of the Ministry for Research and Technology. It used to be assisted by the Gesellschaft fur Information und Dokumentation (GID) but this organisation has recently been virtually wound up.

In France there is at present no formal coordinating body. There used to be an inter-ministerial body,MIDIST,for the STI field but this no longer exists and its present successor, DIST, is the responsibility of one Ministry, that for research, and seems to have no coordinating role beyond that Ministry.

In Spain coordination is maintained by the Interministerial Committee for Science and Technology.

In Finland the State has responsibility for information administration in public administration. An interministerial committee, The Science and Technology Policy Council, has issued recommendations on the development of information services as a part of Science and Technology policy. The Committee on Information Technology has responsibility for IT in all sectors of public administration. The Finnish Council for Scientific Information and Research Libraries, TINFO, has responsibility for STI in all sectors. The Committee can, however, on the Council's initiative, take a stand on STI policy issues, too.

In Norway coordination should be achieved by the interministerial Government Research Committee. However, with STI becoming more and more closely linked with the telecommunications and electronics fields, it is accepted that there is some lack of coordination with the more traditional aspects.

In the USSR unified methodological guidance of the country's STI services is exercised by the USSR State Committee for Science and Technology. Within their specific sectors the various All-Union institutions have responsibility for ensuring coordination within the SSTIS.

In Poland the entire coordination of the implementation of STI policy is in the hands of CINTE, the Central Office for STEI, under the direct supervision of the Office for Promotion of Progress in Science, Technology and Development.

In Czechoslovakia coordination is ensured by close cooperation between the State Commission for Science, Technology and Investments, headed by a Vice President, and all the involved ministries during the preparation of the State Plan for STEI. Once this is incorporated in the national 5 year plan and published as a decree, the actions prescribed have to be carried out by the ministry responsible.

In Hungary no special coordinating machinery appears to exist at present.

In Japan, the PM's Science and Technology Council which includes five Ministers acts as its own coordinating mechanism. However, its executive body, the Science and Technology Agency does not seem to play any co-ordinating role in respect to the STI activities of the Diet Library or of NACSIS.

In the UK, the Cabinet Office plays an active part in information policy matters but does not appear to involve itself in coordination or co-operation between Government Departments in such matters. The Office for Arts and Libraries, with its limited remit on matters outside its specific responsibilities cited earlier, does use its "good offices" when it can to draw matters to the attention of other Departments. An Inter-Departmental Coordinating Committee for Scientific and Technical Information (ICCSTI) does exist but is made up of middle rank civil servants and has been mainly concerned with responding to proposals from the Commission of the European Communities. A sub-committee, ICCSTI(E), which includes representatives of the professions, is said to be an excellent channel of communication between Ministries and the institutions. External advice direct to the appropriate Ministry is given by the fairly recent Confederation of Information and Communication Industries CICI, whose formation was recommended in the ITAP Report (GB 9). Advice is given to the Minister for Arts and Libraries, which he includes in his Annual Report to Parliament, by the Library and Information Services Committee, LISC(E), which is composed of experts and representatives appointed by the Minister. There are separate LISCs for Scotland and Wales which advise the Ministers for these countries.

The British Library plays a significant part in encouraging voluntary cooperation, sometimes giving some financial support to add incentive to willingness (eg.GB 6).

In Canada, CISTI has been given the role of coordinating agency with a mandate to encourage the development of voluntary networks of cooperating suppliers in order to improve access to STI.

The situation in the USA is probably best illustrated by a quotation from a report published by the National Science Foundation (US 23): "The Federal Government to date has not seen a need to develop a co-ordinated agency-wide system for disseminating scientific and technical information. Instead, Federal involvement in this area has been characterised by disparate policy actions that generally reflect changes in society's attitudes about science, technology or information. These actions have often been initiated by executive branch agencies; sometimes they have been confirmed by broader administrative and legislative mandates. They have

always been tied to budgetary considerations." Because of its broad policy responsibilities for the Federal government, the Office of Management and Budget occasionally issues information policy through memoranda or OMB Circulars and may in this way pull a number of separate threads together as far as Federal institutions are concerned. An outstanding example of this is its OMB Circular No. A-130 entitled "Management of Federal Information Resources" which, as it says in its summary, "provides a general policy framework for management of Federal information resources. The Circular implements provisions of the Paperwork Reduction Act of 1980 as well as other statutes, Executive Orders, and policies concerning general information policy, information technology, privacy and the maintenance of Federal records." Otherwise a great deal is achieved as in the UK and Canada by voluntary cooperation between the various organisations and by private sector initiatives and in this the "good offices" of NCLIS play a part.

Chapter 9

RESEARCH, DEVELOPMENT AND POLICY FORMULATION

Research and development are cornerstones of policy development and implementation. Thus in the Federal German Program (DE1) it is stated that among the areas on which activity is to be concentrated is "user-oriented R & D of techniques for production, provision and utilisation of electronic specialised information. The Japanese NIST Plan (JP1) states "Promote activities to facilitate STI activities such as .... research and development of information science."

It is common, it seems, for much of the research to be carried out in universities and polytechnics or in research institutions as well as in the official and private sector information centres. This requires some degree of coordination or at least an overview of the trends. Where the research is funded by a central agency, such as the British Library's R&D Department or the Netherland's NBBI this is not too difficult. In the USSR, by a decision in 1961 of the State Committee for Science and Technology, VINITI was confirmed as the leading body for research into STI problems within the SSTIS and hence for the coordination of all research in the field. In Canada, CISTI as a part of the National Research Council would undertake R & D itself, such as that which led to the development of the CAN/OLE system, but would attempt only to maintain an overview of work in other institutions.

In America, western Europe and Japan, private sector research organisations may be involved and in all countries there are occasions when research projects are entrusted to individual experts. But official guidance on the direction R & D should take, in the form of either specifying the research needed or in approving and granting funds to support R & D proposals, is given in several countries by official bodies set up for this purpose.

In the Netherlands this role is undertaken to NBBI as successor to NOBIN. In Germany it was, until recently, one of the roles of the GID and presumably will now fall to the appropriate centres under the Ministry for Research and Technology. The situation is different from that in the Netherlands in that in the latter the responsible authority is the Ministerial Committee for Information Policy assisted by an Inter-departmental Committee for Information Policy; in Germany the Program is operated by a Ministry, that for Research.

In Japan the situation is, apparently, the same as in the Netherlands in that there is the PM's Science and Technology Council containing several Ministers supported by the Science and Technology Agency (STA). However, there is no equivalent of NBBI, the STA including the research directing role within its own remit. However, there is also the National Center for Science Information System which is university based and virtually independent of STA direction. It includes research activities within its terms of reference and has a Research and Development Department within its organisation. This undertakes research in the fields of library information, information management, databases, systems engineering, software engineering and network engineering.

In France the Ministry of Research has a Délégation à l'Information Scientifique et Technique to guide its research policies in this field but several other Ministries also have their own R & D activities guided by Directions de l'IST. In the Ministry of Education, Youth and Sports is the Direction des Bibliothèques, des Musées et de l'IST (DBMIST) which is particularly active in initiating studies into matters with policy implications in the academic library and STI fields.

In the Nordic region research into LIS matters is well catered for. Three organisations, TINFO, DANDOK and NORDINFO merit deeper study but the third will be considered later as it is a regional, not national, body.

Finland's TINFO is an advisory board for the library and information field affiliated to the Ministry of Education but with activities stipulated by Statute (A 1022/1981). Its purpose is:-

to develop policies and plans in the library and information field

to promote the library and information field to meet the needs of the scientific community and the rest of society. Its functions include:-

to make proposals for policy issues and development aims

to grant funds for research, experimental and training projects

The Danish DANDOK has a much broader remit. It too is a consultative and coordinating body under the Ministry of Education but it also sets up service operations such as the Register of Research (in all disciplines) and the DIANE online user advice centre. DANDOK will undertake or commission such research as is needed for its work.

In Poland official coordination of STI research and of research policy is undertaken by IINTE and in Czechoslovakia by UVTEI.

In the UK official funding of research is a matter for the Research Councils but the Government issues general guidance on the particular fields and directions it wants emphasised. Thus there has recently been a Cabinet Office Report on Exploitable Areas of Science followed by a decision to create a Centre for Exploitable Areas of Science, CEST.

There are separate Councils for science and engineering, for the social sciences, for medicine and for agriculture. The main "Research Council" for the library and information science field is the Research and Development Department of the British Library (BLR & DD), originally formed in 1965 as the Office for Scientific and Technical Information (OSTI) within the Department of Education and Science. It publishes five year plans describing its policies for research, the last two covering 1985-89 (GB 11) and 1989-94 (GB 12). One sector of the latter is "Information Policy Research". Just as OSTI was guided by a high level group of external experts, the Advisory Committee for Scientific and Technical Information (ACSTI), so the BLR & DD is guided by the Advisory Committee on Research and Development (ACORDD).

Other Research Councils may initiate research in the I & D field. For example, the Social Sciences Research Council has initiated a major project to study the consequences of the information society known as the Programme on Information and Communication Technologies (PICT). Government Departments and other official agencies also initiate R & D work in the information field, but not the library one. The Alvey Programme of the Department of Trade and Industry (GB 10) is a well known example, being concerned with the development of advanced information systems and technologies.

In the USA the situation is not dissimilar in that any concerned Government Department or Agency can initiate R & D work in the Information field within its area of responsibility. The National Commission on Libraries and Information Science keeps a general overview on activities and can initiate research itself. An important recent document (US 9) prepared in this way was one concerned with archiving land remote-sensing satellite data and the study was carried out to provide input to Senate consideration of proposals to privatise the US space systems.

A Federal Government agency of considerable importance in the research context is the National Science Foundation (NSF) which acts in many respects like a UK research council and covers the whole of the sciences and includes information studies generally, not just information science. Another important body for the library field is the Council on Library Resources which funds many R & D projects.

Advisory Groups In all the industrialised countries there are committees, often several committees, which advise on the information policies, practices and needs. Sometimes the advice mechanism starts at the top, as in the cases of Japan, where the STC has a number of outside experts as well as a range of Ministers. Sometimes it is built into a special body, as in the cases of Finland's TINFO and the Netherland's RABIN. In Canada, approval for the Katz Report's recommendation that an advisory board, ABSTI, be set up was given in the Cabinet decision of 1969.

Much depends on which organisation or person advisory committees are set up to advise. Thus in the UK, because the Library and Information Services Council, LISC(E), advises the Minister for the Arts and Libraries, who has only very minimal responsibilities for the information sector, its advice tends to concentrate on library policies. One consequence of this was that the information and communications industries were encouraged (GB 9) to set up their own federation to represent their interests. The result was the Confederation of Information and Communication Industries, CICI, which is not an official committee but an industry consortium to whose views Government is ready to listen. Similarly the CEC encouraged the formation of the European Information Providers Association, EURIPA. In France the organisation GFFIL represents the interests of the providers of online information services and in the USA there is the Information Industries Association. Thus policy in some of the market oriented western countries seems to have moved away from officially setting up new advisory committees, though many still exist, to encouraging the formation of consortia of the interested organisations and individuals when the need for new bodies arises.

Of course those so far discussed are all permanent advisory groups. There have also been an enormous number of ad hoc advisory groups set up for one task and then disbanded. These are very common in Canada, the UK, the USA and Australia. Many examples of their reports are referred to in this study. In France it is also common for Reports of similar importance to be produced by single experts or by pairs of experts, eg. the Nora-Minc Report. In general, practice in the information sector is similar to that for any other sector of the economy.

Chapter 10

PUBLISHING THE POLICIES

National practices for publishing and promulgating changes in or new policies which concern the information field vary widely. Generally, though, they are similar to those used for any other sector of national policy. In those countries which have an integrated programme for STI or specialised information the programme document itself must be the main source of information. But even in some of these countries, key components such as copyright, patent law, and standards tend to be, or have been, the subject of separate consideration. So too may subjects which are suddenly attracting attention and which are highly dependent on information such as environmental issues.

In countries like the UK and USA where no attempt is made to produce an integrated national policy, even for the STI sector, the number of different types of document used to provide awareness of policy changes is considerable. On the one hand there are laws and, at the other extreme, there are Ministerial statements in Parliament or Congress and even press releases. In between lie a variety of means.

This review does not attempt to be comprehensive but will illustrate some of the practices of several countries.

Austria: The intentions in respect of STI are published in book form by the Ministry of Science and Research. Two are particularly relevant - Österreichische Forschungskonzeption 80 (AT 1) which on page 40 sets STI services within the framework of the scientific and technical research plans and Informationskonzeption: Fachinformation in Österreich. (AT 2) Laws are also passed. A collection of those governing academic and research libraries are conveniently collated in a publication of the same Ministry Rechtsvorschriften für das Wissenschaftliche Bibliothekswesen in Österreich. (AT 3)

Federal Germany: The situation is similar in this country. The whole of the plan is brought together in a single publication Fachinformation: Programm der Bundesregierung, issued in book form by the Ministry of Research and Technology in both German and English. (DE 1)

Spain: The first key document is a new law, the law for the promotion and coordination of Scientific and Technical Research. This establishes, as a central mechanism, a National Plan for promoting Scientific Research and Technological Development which will be published by the Ministry of Education and Science. One section of the Plan will be devoted to STI and will be based on a Plan Nacional de Actuación en materia de Documentación e Información Científica y Técnica, the "IDOC Plan", Guidelines for which were published by the Ministry of Education and Science in 1984. (ES 1)

Czechoslovakia: As this is a country operating a planned economy, the State information policy for the STEI system is implemented mainly within the plan of scientific and technical development. The current five year plan covers 1985-89. The STEI policy is defined by Decree No.21/1985 of the State Committee for Science, Technology and Investments. Various aspects of the implementation of the policy are covered in a number of Acts, both Federal and of the Czech and Slovak States separately, Decrees of the various Ministries involved, Guidelines, Principles of Guidance, Instructions of Federal Ministries and Methodical Instruments.

Hungary: In Hungary there is no longer any central Government committee or Ministry with overall responsibility for STI and hence there is no focal Decree as in Czechoslovakia. Nevertheless there are many documents issued from the various official bodies with responsibility for individual

sections of the field. These have taken the form of Decrees of the Council of Ministers and its Subcommittees, official programmes, guidelines and reports for and from advisory committees.

Poland: The basic outline of a policy for STEI in Poland is described in a Report, Foundations of the information policy of the Polish People's Republic in the field of science and technology; (PO 1) which was accepted by the Committee for Scientific and Technological Progress of the Prime Minister's Office and published by CINTI in 1988. An earlier Report, Goals and Tasks of Information Policy; (PO 2) published in 1985 by IINTE, provided a basis for the first Report. A list with extensive summaries of the large number of official documents (Ustawa, Rozporzadzenie, Uchwala, Zarzadzenie, Decyzja, Dekret and Postanowienie) published between 1970 and 1980 is contained in ref PO 3.

Norway: A large number of different vehicles are used to convey aspects of information policy, the one chosen for any purpose being that typical of national practice. Thus one finds laws, decrees, enactments, statutes, official programmes, statements by Ministers, guidelines and reports from advisory bodies of high status.

Finland: Typical documents which convey national policy are:-

Act and Statute on Free Copy 1980
Archives Law and Decree 1981, 1982
Council of State Resolution on Central Research Libraries, 1972
Public Libraries Act 1986
Decree on Information Management in Public Administration 1988
Development Programme of the Finnish Council for Scientific Information and Research Libraries 1978
Science and Technology Policy Review 1987 (Science and Technology Policy Council) (FI 1)

Denmark: Laws, generalised guidelines and reports from official bodies, especially DANDOK, are the main sources. A particularly helpful guide is Danish I & D Policy, DANDOK-notator No.4, 1983.

France: As are listed in Appendix 3 there are a large number of official documents and they come in several categories. There are laws, in preparation for which there can be Reports commissioned by the appropriate Ministry. Decrees regulate the application of laws. Circulars are also used to elaborate on details. Reports commissioned by the PM, eg the Nora and Minc report (FR 4) L'informatisation de la société, which have major impact on policy though not necessarily leading to legislation, are obviously a major source of information about policy, as are other major reports to Ministers or Commissions. Another source of information is the publications of various relevant official institutions connected with the Ministries, for example:-

Micro-informatique et documentation (FR 5)
Le marche français de l'information en ligne (FR 6)
both published by DBMIST

UK: Statements of UK policy in respect of some aspect or other of the information field are to be found in or are disseminated by a variety of means. Of course there are laws such as the Data Protection Act 1984 (GB 2) and the Public Libraries and Museums Act 1964. Also of importance are the two series of documents which commonly preface passing a law, both presented to Parliament. The first is the "Green paper", a document inviting discussion of a topic, eg Intellectual Property Rights and Innovation, and the second is the "White paper", an outline of proposed legislation which invites comment on the draft proposals. Both are

published as Command (Cmnd) Papers but not always under the same aegis. In the example quoted, the Green paper was sponsored by Cabinet Office but the White one by the Department with responsibility for the eventual Act, ie the Department of Trade and Industry. Incidentally, there are also "Bills" which are draft Acts. Statutory Orders and Regulations are used to elaborate on the implementation of Acts.

Ministers may also choose to announce policies by a statement in Parliament, often in answer to a question. This can be traced in Hansard, the record of Parliamentary debates, though obviously the new policy will be made apparent by the subsequent actions of the relevant Ministry. A written response to a Parliamentary Committee is another way of expressing official policy. Even a Press Announcement has been used to publish a particular new or changed policy, this method being most commonly used when Parliament is not sitting.

Ministers make annual reports to Parliament on matters in their jurisdiction and one such is the annual Report by the Minister for the Arts on Library and Information Matters. This contains as an appendix a review by the Library and Information Services Council.

The reports of other influential committees can also in practice create policy. Classic examples are those of the Cabinet Office's Information Technology Advisory Panel, ITAP, and its Advisory Council on Applied Research and Development, ACARD. On the other hand, it is rare for all the recommendations of Government appointed committees to be accepted and reports such as The Report of the Committee on Libraries 1967 (the Parry Report) and The Report of the National Libraries Committee 1969 (the Dainton Report) should be read with this in mind.

Canada: Aspects of Canada's de facto STI policy can be found in many sources including legislation, government decisions, program descriptions and the published statements of senior officials.

USA: In this country too, as might be expected, information policies have to be traced through a large number of different documents. Responsibility for information policy or the policy itself may be specified in legislation enacted by the US Congress. Another channel is Executive Orders occasionally issued by the President. The Office for Management and Budget, as mentioned in an earlier chapter, occasionally issues information policy through Memoranda or OMB Circulars. Further, an organisation or agency may influence policies through regulatory changes and/or changes in administrative guidelines.

As in the UK, policies in some cases may be implicit rather than explicit and it is necessary to be able to infer them from events, such as attempts to limit access to sensitive but unclassified information by foreign nationals. On the other hand, treaties, protocols and other international agreements can give an added insight into national policy.

There are a great many reports discussing policy issues and making recommendations. Of particular note is the report of the White House Conference though, as with so many other reports, only a very few of the policy recommendations seem to have been accepted.

CHAPTER 11

FEATURES OF THE NATIONAL INFORMATION POLICIES AND PROGRAMMES

Not every industrialised country has a coherently expressed set of policies for the STI/STEI field. Some that do not nevertheless have a clearly definable programme of work of which it can be said that policy is to implement that programme as far and as fast as resources permit. The same applies to the Specialised Information (SI) field. Other countries have a definable set of policies for what may be called the documentation field while a fourth category may be defined as having only distributed policies relating to all or any parts of the information field.

In grouping the countries in this way it will, of course, be realised that those countries whose STI or SI policies are being discussed do also have policies for the wider fields. The original intention was to compare policies for the STI field only but where this is not possible then a wider field which necessarily includes STI has been chosen.

USSR

The USSR has a State STI System, SSTIS (SU1 and 3). The policies on which the system is based are:-

1. unified methodological guidance for the country's services.
2. conformity between the SSTIS structure and the management structure of the national economy realised in the form of a network of all-union, central branch, republic, inter-branch territorial and local information bodies.
3. centralised processing of information source material by all-union and central branch organisations, each handling that material which lies within its field of competence.
4. decentralised delivery of information to users through sectoral, territorial and local bodies.
5. continuing development of international cooperation in the field of theory and practice of information activities.

Distribution of information through SSTIS is carried out in accordance with the following principles:-

a. the all-union bodies create multi-subject databases from specific categories of source material.
b. the central branch STI bodies create sectoral (subject) databases by drawing material from the all-union bodies and adding extra input from their own sources.
c. republican and territorial intersectorial bodies create databanks for their specific interests by drawing on both the all-union and the central sectoral databases.

By this means, wasteful multiple processing of primary sources is avoided and at the same time common standards are maintained.

A necessary feature of achieving SSTIS has been to give priority to establishing a network, linked by telecommunications, of computerised systems and to manage by computer the collection, storage and distribution of information (SU 4). The result of much R & D in the field has been the creation of Automated STI Centres (ASTIC).

Current policies are to give priority to improving and extending the number of factual databanks and to create an extended network technology to allow input of databanks into the SSTIS from a greater number of institutions. Also in current policy is that priority should be given to automating document ordering and supply and also to automate appropriate intellectual processes.

International policy includes extending arrangements for both accessing foreign databases and databanks and also for providing access to components of the SSTIS.

At present, in common with many other activities in the USSR, the policies of the SSTIS are under review (SU 2).

CANADA

The Canadian situation and its solution bears some resemblance to the Soviet one. Since the foundations of its decentralised system focussed on a central facility, CISTI, were determined in the 1960s, especially by the Cabinet decision of 1969 (since confirmed by the National Research Council Act of 1987), the OECD Review of 1971 (CA 4) was able to review established policies and plans. It said, "Clearly no organisation .... can undertake all the tasks often quite efficiently performed by the many I & D facilities scattered across the country. An up-to-date information network .... must instead be based on the existing infrastructure, by co-ordinating activities, articulating the various services developing the strong points, helping and guiding .... initiative .... and bridging the gaps which remain."

Policy guidance was received from the Ministry of State for Science and Technology, MOSST, which said (CA 5) that:

i) the situation was so complex that it was not practicable to prepare a realistic master plan for STI services
ii) the appropriate strategy was to choose a framework within which policies could be continuously adjusted
iii) administrative arrangements should reflect and embody this strategy

As a result the main principles on which Canada's approach to STI delivery are now based are:-

1. STI is to be regarded as a support function hence requiring close attention to user needs, reliance on collections and on services close to users.
2. the interdependence of suppliers to be encouraged through voluntary participation in local and national networks.
3. the encouragement of the evolutionary development of improved access services with federal support provided through a national facility, CISTI, to complement and supplement local collections, and to develop and operate national access services. CISTI does this by maintaining the principal science and technology library in Canada, by acting as an information transfer agency and by also acting as a coordinating agency for the voluntary networks.

In looking at priorities, CISTI pays particular attention to:-

user needs for speedy, efficient service.
the need to make more effective use of available resources.
the government's current economic and social priorities.

A key policy in respect of the participants in a network is that:-

the organisers, CISTI, shall make key contributions which encourage and facilitate cooperation
the participants must be able to see benefits from voluntary involvement
the participants must make contributions themselves.

Another key policy is that information seekers are encouraged to go first to a local information source, not to come direct to CISTI or other remote major participant.

The Union List of Scientific Serials held in Canadian libraries, ULSS, and especially the on-line enquiry service, CAN/OLE, are examples of the fruits of CISTI's work. Access to foreign on-line services has been enhanced and used to encourage and strengthen the trend to local specialisation. Thus as with many other countries, there has been an implicit, even if not explicit, policy to make effective use of modern information technologies in the service of information provision.

Currently policies are evolving in the area of marketing information services which will enable the right balance to be struck between charging fees at a level which will secure the future of the network and CISTI services and not provide unfair competition to the private sector while at the same time keeping them low enough to satisfy client requirements. National policies also require that Government agencies should contract out work to the private sector wherever possible. CISTI now makes increasing use of contracts with private sector firms as a means of:

obtaining specialised services
enabling joint ventures with industry to develop new services
disseminating technology developed in-house.

POLAND

This country has published its information policy for the STEI field in summary in a single document (PO 1). In outline it covers:-

1. the role and place of information policy in science and technology
2. the goals and objectives of STI policy
3. user needs
4. the national information system
5. access to national and foreign information sources
6. information technology procedures
7. development of databases
8. research and development in the field of STI
9. training of both information workers and users
10. international cooperation
11. financial and material resources
12. effective implementation of STI policy

From this a complex programme of STI development for the period up to the year 2000 has been drawn up by CINTE, the central focus of the plan, roughly equivalent to Canadian CISTI. It has been approved by the State Committee for Scientific and Technical Progress and will be financed from the Government budget. It is too early yet to know whether any modifications will be made to take into account the recent announcement that private sector and foreign firms will be allowed to operate in Poland.

In general Polish information policy provides for a blend of national and local planning. At each level (central, regional and enterprise) STI activities are financed by the institution concerned.

CZECHOSLOVAKIA

As in the case of the USSR and Canada, there is no comprehensive official published document describing national information policy. Again, the practice is a network of cooperating institutions coordinated by a central one, UVTEI, which prepares and publishes the methodological bases

for the system, organises courses for those in other institutions, and acts as an information centre, database centre and central technical library. The system is essentially a distributed one and takes into account the resources and aspirations of the Czech and Slovak States.

State information policy for scientific and technical development is not merely a set of generally applicable methods, forms and instruments for managing the flow of professional information; it is also a category of planning. It is derived from the basic goals and tasks of economic and S & T policies. As a basic policy, the VTEI system is developed in close partnership with the other two network systems, social and economic information, SEI, and planning and budgetary information, IPSR. The State Information Policy for STI aims to achieve:-

1. influence on the information resources which are the basis of information activities.
2. ensuring the most efficient organisational structure of information centres.
3. ensuring adequate education and training for the staff.
4. introducing standard data processing reprographic and communications equipment into the information system.
5. effective methods of management and funding of the activities.
6. determination of the directions which international cooperation in information systems should take.

It is, of course, policy that in the systems priority should be given to providing services which support the high priority fields of the national plans.

It is expected that the present state programmes for STI as the principal instruments of the State Information Policy will change at the beginning of the next decade when the STI sector is scheduled to form a part of a much wider programme concept of the informatisation of society. (CZ 1)

HUNGARY

Hungarian policy for STI is as it has been described in chapter three. Currently a Parliamentary bill is in the course of preparation which aims to improve access to information in general while making provision for such protection of privacy as is appropriate.

Further consideration is also being given to ensuring effective information services are available for decision making at the highest level.

SPAIN

The Spanish Plan Nacional de Actuación 1983/86 en Materia de Documentación e Información Científica y Técnica, the IDOC Plan, (ES 1) was conceived to be part of the national programme for S & T but has yet to be accepted as such (ES 2). It has seven main themes:-

1. improving Spanish S & T journals, increasing their worldwide dissemination and their coverage by international secondary services.
2. strengthening the library network as a basic support for STI work.
3. creating Spanish databases and increasing the utilisation of national and foreign ones.
4. improved courses for training STI specialists.

5. promoting research into both information science and information technology.
6. promoting awareness of the use and value of information among society generally.
7. articulating information activities between Central and Regional authorities.

JAPAN

Like the preceding countries, Japan has policies for the field of STI. In its case these were first expressed in a consolidated form in 1969 in the NIST Plan which, updated as and when necessary, has been followed ever since (JP 1). The Plan has a number of basic concepts:-

1. STI is an important resource for the nation.
2. published STI from worldwide sources must be actively and selectively distributed.
3. in the short term STI activities must be subsidised but, in the long term, should bring a financial return.
4. STI activities should be promoted in cooperation with related agencies.
5. promotion of STI activities should take international factors into account.

The basic framework of NIST envisaged three groups of institutions:-

a) clearinghouses, datacentres, specialised information centres, and an integrated information centre.

b) libraries and depositories, training institutions and R & D institutions.

c) dissemination means, ie. regional service centres and user terminals.

In the event seven main policies and objectives were identified:-

i) expansions of existing databases and the creation of necessary new ones.
ii) expansions of on-line services.
iii) consolidation of primary information services and specific referral services.
iv) fostering of the indigenous institutions in the NIST framework.
v) promotion of co-operative international activities.
vi) consolidation of the foundations of STI activities, eg. standardising communication formats, R & D, E & T of information specialists, and education of the public.
vii) promoting model activities.

The central organisation for the realisation of the Plan is, of course, JICST. Unlike CISTI, with which it can be compared, it is not developed from a major library but has been mainly engaged in the production of secondary services, at first in print and then on-line. It is building up a library resource to facilitate document supply but the main S & T library in Japan is the national library, the Diet library.

Private sector services and initiatives outside the NIST institutions are not discouraged and, of course, a National Centre for Science Information Systems has been set up under the aegis of Monbusho.

FEDERAL REPUBLIC OF GERMANY

Federal Germany policy is also to establish a programme for, in its case, the specialised information, SI, field, revising the programme as and when circumstances require. The Programme for SI 1985-88 (DE 1) states that the aims of SI policy are:-

1. to improve the commercial environment of the SI market and - for example, by means of deregulation and privatisation - to overcome existing obstacles and bottlenecks;

2. to strengthen transfer of information within science and between research and industry, particularly in order to intensify transfer of technology and encouragement of innovation, in state areas (parliament, administration and jurisdiction) as well as in practice (e.g. health care);

3. to guarantee transborder data flow for SI also, and to create conditions which will allow the German supply of SI and demand to be extended and improved within the framework of an open trade system, thus enabling German suppliers of information - also using opportunities of European and worldwide cooperation - to strengthen their international position;

4. to increase the use and acceptance of SI in science, industry, the media, the state and society and to improve access to international SI;

5. to improve the German economy's market opportunities and to create future-oriented jobs in the information sector, too.

The considerable emphasis given in these aims to market development, trading and employment opportunities at first sight contrasts with other plans, but in fact it is common to the policies in all the market-economy countries. The practical approach of the Fachinformationsprogramm is apparent in its themes, the main ones being:-

(a) improvement of the technological information environment and economic development conditions

(b) production and distribution of SI

(c) supply of electronic SI

(d) information science, education and training

(e) international cooperation

AUSTRIA

Austria has also produced a unified scheme for dealing with the SI sector (AT2). This is envisaged as a component of the Research Plan (AT1) published a few years earlier. The plan is explained under five headings:

1. the meaning of SI and of information

2. SI in an information organisation

3. the agent in a process of change

4. consequential policy requirements

5. information

The operational measures envisaged are listed and show considerable emphasis on the use of modern information technologies.

NETHERLANDS

In the Netherlands the information field is under the direction of the Ministerial Committee for Information Policy which has the assistance of official advisory committees such as the Interdepartmental Committee for Information Policy. Nevertheless, it seems that the country has not seen any need to promulgate a co-ordinated information policy or plan even for the STI field. In this it resembles Canada. In the I & D sector it has, however, seen the need for an agency to give advice and support, and to change this as circumstances changed so that, as described earlier, NIDER has become NOBIN which in turn has become NBBI. Likewise Cobidoc, which was created to help the database and on-line sector, has been disbanded when need for it was judged to have ended.

"Traditionally, the Netherlands has maintained a well-defined separation between the public and the private information sectors. In the field of service to the end users of information, that separation becomes more and more noticeable. Only in the last few years has greater cooperation been sought between the two sectors. Since the mid-seventies the Netherlands has had a government-financed organisation, Cobidoc, which deals increasingly with online information service, and administrative and professional support of hosts, databank suppliers, and users. These activities are no longer considered to be government responsibilities: they have now been entrusted to organisations working commercially. Certain trends can be observed in policies regarding libraries and documentation centres:

1. Decentralisation. In new legislation (Welfare Act) the responsibility for public library service has been assigned to local authorities, leaving the Government without the overall steering powers it used to possess ... The government at the same time strengthened the centrifugal (note: the author probably means 'centripetal') tendency by concentrating responsibilities (especially for academic library matters) more and more in the Royal Library.

2. Increasing cooperation. Closer contact between organizations active in different fields is gradually being established, leading to joint action. For example the foundation WTI (Scientific and Technological Information) includes the participation of the professional associations of research, special and public libraries, those of online users and those of booksellers and publishers ... A larger role for the private sector can also be perceived in relation to the position of small and medium sized businesses. This shift is manifested in, for example, the increasingly important role of publishers in document retrieval ... Following the rationale for the new structure concerning advice and execution, it was determined that only commercial organisations would be allowed to deal with services for users of automated databases" (NL 1).

In general in the Netherlands it can be said that in the immediate future the planning activities for information will have a stronger emphasis on harmonisation and coordination but it does appear that they will be largely limited to the fields of publications, libraries and traditional documentation while the greater part of the field of specialised information services will be left to the private sector.

DENMARK

This also is a country which, like the Netherlands and the other Nordic countries, has not attempted to publish a consolidated information policy though DANDOK has brought much together in its document.(DK 1) Each Ministry has responsibility for activities in its own sector but to achieve a measure of coordination, the Ministry of Education set up the agency DANDOK. It aims to promote coordination and cooperation by offering advice

and consultancy and by giving particular attention to planning by promoting the use of standards and of compatible equipment, and by increasing awareness of activities in each centre. It established the Danish DIANE Centre to support on-line systems and users. It acts as a focus for international cooperation in I and D matters.

Denmark has long had a policy of making information easily available in order to help industrial development. Examples of the agents of such policies are the well known Danish Information Organisation, DTO and the network of Regional Business Information Centres, TIC, which caters especially for small and medium sized firms. The Danish Patent Office was one of the earliest to develop information services to exploit the knowledge of its examiners.

In 1984 a new Technological Development Programme, TUP, was produced by the Council for Technical Development and this has given a new urgency to develop information services further.

FINLAND

Like Denmark, Finland has set up, under the aegis of the Ministry of Education, a Council for Scientific Information, TINFO, "to develop policies and plans for the LIS field and to promote the field to meet the needs of the scientific community and the rest of society". Its activities are stipulated by Statute A1022 of 1981. Among its functions which reflect policies are "to coordinate the cooperation of the LIS network and to promote international cooperation in the field."

Current issues being examined include:-

1. charging policies for certain information services;

2. the use and financing of databases and related copyright issues;

3. the influence of new technologies on the library network;

4. changes in the form of publishing;

5. social changes brought about by the new technologies;

6. integration of information policy with a view to enabling the information management of currently separate components to be developed in the same direction.

This last issue is raised in the Science and Technology Review published by the Science and Technology Policy Council, a body created by Act of Parliament as recently as 1986. The Review emphasises the importance for the development of industry of strong, well-directed scientific and technical research.

NORWAY

In Norway there are, under the Ministry of Cultural and Scientific Affairs, two bodies with responsibilities in the library field: the Directorate for Public and School Libraries; and the National Office for Research and Special Libraries. The latter has an Advisory Council which absorbed the earlier Committee for I & D, NORINDOK, which had responsibilities roughly akin to those of DANDOK and TINFO and which now reside in the National Office. Like DANDOK, the National Office set up a national DIANE centre to promote the general utilisation of databases.

Public libraries are required, by Act of Parliament, to "promote knowledge, education and other cultural activities by providing access to information and by making available books and other suitable material, free of charge, to everyone."

The principal special/research libraries are in universities and hence primarily serve their own institution but those in technological universities, e.g. Trondheim, also serve industry. The Norwegian Patent office makes copies of patent documents available to several libraries but does not follow the lead of either the Danish or Swedish office in providing information services.

In general Norwegian policies and strategies are aimed to promote the use of STI and to make handling more efficient. In the broader information sector there are few limitations on usage except that there are very strict regulations on handling personal data.

Current policy issues under discussion in Norway include:-

1. the pricing of services (cf.Finland)

2. revising copyright legislation to meet modern circumstances

3. the establishment of a national library (at present the Royal University Library is the national library).

FRANCE

Although it does not appear in any formal official pronouncement, it is clear that French policy for the SI sector, including STI, is to create a strong information industry, to build a large indigenous market for IT equipment and for electronic information services, to seek to develop exportable information services and to develop a sound infrastructure of documentary information resources. However, it is left to individual Ministries to pursue action vigorously within their spheres of responsibility.

The result of such policies is shown by the success of the MINITEL system, the rapid growth of the database industry, the success at home and as an exporter of Télésystéme-Questel and by the very effective regional networks of ARIST, INPI and other information services aimed at industry and commerce.

Among the official organisations charged by each Minstry with developing policies and stimulating or initiating action are (FR 1):-

1. Direction des Bibliothéques, des Musées et de l'IST (DBMIST) of the Ministry of Education.
2. Direction de l'IST (DIST) at CNRS
3. Mission a l'Information et a la Communication (MIC) at INSERM
4. Direction de l'Information et de la Valorisation (DIV) at INRA
5. Section for IST at the Ministry of Cooperation
6. The Ministry of Industry has established a plan entitled "Databases".

Taking one of them, DBMIST, as an example, a glance at its range of current initiatives and established programmes (FR2) illustrates both the direction and degree of effort being made. The 30 initiatives in its programme include:

(a) CADIST. Centres for the acquisition and dissemination of STI

(b) PEB. Remote ordering and inter library lending system

(c) Development of Databases

(d) Databanks on optical discs

(e) Electronic publishing

(f) Making access to host services easier

(g) Transdoc electronic document storage and supply

(h) SUNIST. A university host for STI

(i) Education and training of students, users of STI and information professionals

(j) URFIST. Regional centres for promoting STI

(k) Research in information science

(l) Information and foreign relations

(m) Development of international activities.

In 1986 a meeting was organised by eight professional organisations representing archivists, librarians, conservators and documentalists. The advice it produced for government was published under the title, "Pour une politique documentaire nationale" (FR3). As seen by the professionals the immediate needs were:

(i) that the infrastructure dealing with the bibliographic control and supply of copies of documents needed strengthening and the distribution of functions among different types of libraries and documentation centres re-assessed.

(ii) that better access to documentation for the public was needed, especially to governmental publications, and greater decentralisation of information activities planned.

(iii) that the laws and rules governing information matters need to be modernised with particular emphasis on protecting the rights and interests of all parties.

(iv) that R&D in information science needs to be stimulated especially to enable STI better to give a stimulus to innovation.

(v) that the system of educating and training professionals is in need of improvement.

(vi) that the public needs to be better informed about making the best use of information resources.

(vii) that there should be greater emphasis on international cooperation.

(viii) that the decision and coordination structures need to be clarified.

Behind this last seems to be a feeling on the part of the profession that there is a need to provide an overview of the changes happening so that the information scene can develop systematically rather than ad hoc. An official view was that while there is no need, as past experience has shown, for a strong coordinating body, it could be beneficial to have an advisory body which kept a watch on the whole specialised information sector.

AUSTRALIA

Over the years an effective but perhaps scattered (Australia is a very big, federal country with a relatively small population) set of libraries and other institutions, with CSIRO prominent among them, together with private sector services, especially foreign, have provided STI requirements across the country. The interest in information planning aroused by the Labour Party just before it became the government was carried forward first by a committee of Ministers and then an inter-departmental committee of government officials. Its remit reflected a very broad use of the term 'information'. Discussions continued for about five years but it now appears that the move towards a federal information policy has stopped. The National Librarian explains this (AUI) as being due to several reasons, among them

- a move towards less government involvement in the economy
- a lack of understanding of the issues
- disagreement about the boundaries of the term "information"
- disagreement about who were the key participants (those in the communication and IT industries did not see libraries as significant participants)
- the concept of a Minister of Information is alien to Australian traditions.

The UNITED KINGDOM

UK policies related to the information sector are many and varied. Nevertheless, when brought together they form a reasonably coherent whole though there are still, as in other countries, areas where the balance of interests, which is what policy is all about, needs and is getting further consideration. It is perhaps a curious coincidence that just at the time the Australians were starting the idea of a national information policy, the UK government was announcing that information matters would not be the concern of a single Minister (GB20) and that a national information policy was impracticable.

The cause of STI systems was probably not advanced by a study (GB1) which concluded that all that was needed was more funding to maintain the status quo. UK government policy has been to reduce in real terms its funding for official activities and to encourage those that can to seek extra funding from outside sources or by charging fees. Libraries have been urged to do this and have also been given an incentive (GB6) to develop library plans (LIPs) which encourage local cooperation in order to improve services and lower costs.

A policy of reducing government involvement in activities that can be undertaken by the private sector has been reflected in privatisation of information services and instructions to official ones not to compete on unfair terms or, if possible, to collaborate with the private sector (GB9). Privatisation has also gone hand in hand with policies of removing state monopolies and promoting competition. Thus telecommunications was privatised and competition allowed (GB3). One side effect has been that it is no longer clear which Minister is responsible for Tradeable Information.

There has been a policy aimed at stimulating the use of modern information and communication technologies both to help new industries and to improve the performance of existing ones. Research into advanced methods, e.g. 5th generation systems, fibre optics etc. (GB10 and 14) has

been encouraged and there is a general policy that priority be given to research into exploitable areas of science and technology. This is reflected in the research priorities of the British Library Research & Development Department., (GB11 & 12) and especially in its Project Quartet (GB21). It is also apparent in the ESRC information and communication technologies, PICT, project (GB22).

Encouragement of the need to make good use of information resources is illustrated by the study of the patents sector (GB18) and consequent creation of patent information services in the Patent Office.

At the same time the protection of individual and property rights has not been forgotten. The Data Protection Act and the new Copyright Act have contributed here and the question of freedom to disseminate sensitive official information has led to a current review of the Official Secrets Act.

A policy of international collaboration in the field lies behind close cooperation with the Commission for the European Communities' Information Programme (see Chapter 14), the Glenerin Declaration (Chapter 14), adoption of the international copyright conventions and support for GATT efforts to uphold intellectual property rights.

UNITED STATES OF AMERICA

Like several other industrial countries, or rather setting them an example, the USA has no single national information policy. As an NSF report (US23) says "The federal government has not yet seen a need to develop a coordinated agency-wide system for disseminating scientific and technical information. Instead, federal involvement in this area has been characterised by disparate policy actions that generally reflect changes in society's attitude about science, technology or information." Indeed, the recommendation in the Rockefeller Report (US10) that there should be an office for information policy in the President's executive has never been implemented.

On the other hand, the Federal Office for Management & Budget does seem to have taken it upon itself to repair the omission at least as far as federal agencies are concerned.

Its Circular No.A-130 entitled Management of Federal Information Resources "provides a general policy framework for the management of Federal information resources. It implements provisions of the Paperwork Reduction Act of 1980 as well as other statutes, Executive Orders, and policies concerning general information policy, information technology, privacy and maintenance of Federal records." (US1). This pulls together a great many aspects of information practice and gives both policy and guidelines for its interpretation and implementation. Nevertheless, it covers only information management by Federal authorities and states quite explicitly that it "is not the same as 'U.S. information policy'". In brief summary it covers:-

1. Basic assumptions

(a) that Government information is a valuable resource
(b) that the free flow of information is essential
(c) that the public and private benefits derived from government information should exceed the public and private costs of the information comparison.
(d) that government should look first to private sources to provide commercial goods and services needed by the government.
(e) that the public's right of access to government information must be protected.

(f) that the individual's right to privacy must be protected where personal information is involved.
(g) that the exchange of government STI fosters excellence in scientific research.
(h) that preserving government records has value if certain objectives are achieved.
(i) that Federal IRM policies can affect and be affected by the information policies and activities of other nations.

2. Policies for information management

(i) that only necessary information shall be collected and then only after proper arrangements for its management have been made.

(ii) that both personal and proprietary information shall be handled in a manner that precludes unwarranted intrusion upon personal privacy or violation of confidentiality.

(iii) that individuals may have access to and the ability to amend records about them (Private Act).

(iv) that public access to government information shall be provided (Freedom of Information Act)

(v) that information shall be disseminated but that such services must not duplicate those that are or would otherwise be provided by other government or private sector organisations.

(vi) ensure that government publications are made available to depository libraries (note: there are several hundred of these).

3. Information Systems and IT Management. Agencies shall:-

1. use modern IT systems efficiently and cost-effectively

2. not duplicate systems available from other agencies or the private sector

3. use off-the-shelf software from commercial sources except in exceptional circumstances

4. develop systems in a way that facilitates necessary compatibility and use Federal Information Processing and Telecommunications Standards unless to do so would be costly or inefficient

The Circular then goes on to assign responsibilities to the Federal Agencies among which are 1. that the Office of Personnel Management shall develop and conduct training programs for Federal personnel on information resources management, including end user computing and 2. that the National Archives and Records Administration shall administer the Federal records management program in accordance with the relevant Act.

This would seem to be a pretty thorough policy for Federal information practice but a recent Office of Technology Assessment Report, "Informing the Nation" (which reviews several of the issues described in this present study) says of the OMB instructions that, "They have proven to be controversial".

The Report National Information Policies (US 10) gives a very good review of the situation up to 1975. Since that date a great number of Acts, Official Reports, Executive Orders etc. have appeared which have a bearing

on information policies. The White House Conference of 1979 produced some 58 recommendations concerning matters which, in the view of the professions and institutions represented needed federal action.

As in other countries, information policies often follow other policies and concerns. Anxiety about the success of Japanese industry was reflected in the Japanese Literature Act (US 21). Sometimes judicial decisions create a policy as in the case of the divestiture of the telecommunications company AT & T. Anxiety about loss of commercial advantage to other countries has given rise to a proposal to limit access by foreigners to US conferences and security worries to the FBI Library Awareness Programme, both of which aroused considerable opposition amongst the profession.

Intellectual property rights are still an issue. An office of Technology Assessment report (US 3) illustrates how complicated it is to balance the conflicting interests. The same applies to the topic of who should pay for information - the user or the taxpayer? It is a question to which there is no single, simple answer but the production of at least partial solutions, and hence local policies, may be forced by shrinking budgets. Perhaps we should reflect that some policies we inherit; some policies are thrust upon us; and some policies we ourselves are forced to create.

CHAPTER 12

MARKETING AND CHARGING POLICIES

"Marketing" tends to be a misunderstood term. In the context of this study it means identifying who the potential users of an information service (ie "the market") are, what their needs for information are, what service would meet those needs that the service is capable of supplying, on what terms the users would make use of the service and how the service can be produced and delivered. It includes ensuring awareness of the service and it includes conditioning the potential users to be aware of its value and significance ("informatising the public") so that they will demand it. Charging or pricing policies are only one aspect of marketing though they do tend to attract much attention in terms of national policies. Nevertheless, there has to be a marketing policy for all information services and for library services even if the charging policy is not to make any charge to users.

In the market economy countries, developing the market for information services is part of the basic policy, but the strategy for doing this varies. The Japanese NIST Plan's (JP 1 and 3) reference to long term financial return implies a policy of marketing and certainly the central agency JICST is doing this. The Federal German Fachinformationsprogramm states on page 12 (DE 1) that it was required to "strengthen the financing of the specialised information services by stimulating the demand, and to check the structures .... with the aim of higher efficiency, especially in marketing." In Hungary, in the Netherlands and in France marketing information services is strongly emphasised in principle and/or in practice.

One approach to achieving marketing policies has been "privatisation". This can mean making the services into private sector ones or, even if the Government retains a significant measure of control, making the service operate as if it were totally independent and self financing. The German Programme states that private enterprises in the STI field are free to make their own commercial decisions and the role of Government is to direct economic policy towards the improvement of the commercial environment. It also says that the "Government will continue to investigate the possibilities of privatization of state interests and public services in this area". It adds that "specialized information should .... be offered on the market or .... at least at a price in line with the market conditions." The UK has a very similar policy which includes, in line with its policies towards industry and commerce in general, giving grants and assistance to help an information service get started but continuing these for only a very limited time, after which the service is expected to be self-financing.

Spain has adopted this approach in respect to on-line services where the Automated Scientific Information Network (INCA) has now become a Foundation (FUINCA).

In the USA, the policy is, as stated in the OMB Circulars (US 13 and US 1) to leave services as far as possible to the private sector and ensure that any official ones do not duplicate or prevent the creation of private sector ones. Marketing is, thus, a matter for the private sector but even official agencies such as NTIS are required to be self financing. Pricing policy for Federal services is laid down in another OMB circular (US 14). An example of the flexibility of charging policy is given by the Patent Depository Library Program of the US Patent and Trademark Office which provides information services for the depository libraries at no charge even though, in principle, these services could, in part, be provided, at a charge, by the private sector.

It appears that the policies of all the industrialised countries accept the principle of access to libraries without payment of any fee. This does not apply to all the services available from libraries but, apart from situations where the law requires that a fee be charged, eg for supplying photocopies, policy on making charges is usually left to the authorities in charge of each library. Thus practice can, and does, differ in western countries from one library to another.

It probably would not be too unfair to conclude that the marketing policies and strategies of most official information and library services are still at a relatively elementary stage particularly when they are compared with those of commercial enterprises.

Chapter 13

MECHANISMS CHANGED OR ABANDONED

In several of the historical accounts in Chapter 3 it will have been noticed that organisations set up to perform specific tasks concerned with information policies or strategies were later disbanded or substantially modified. In Sweden, for example, the Delegation for Scientific and Technical Information, which was set up under the Ministry of Education as a result of the 1977 report (SE 1) on STI provision in Sweden submitted by two Government Commissions, was disbanded in 1988 and its functions distributed to other institutions. Its functions were overall planning and coordination, responsibility for R & D, and acting as the international liaison organisation. The somewhat similar TINFO in Finland and DANDOK in Denmark continue. The Norwegian NORINDOK was merged some years ago with the National Office for Research and Special Libraries because their responsibilities overlapped. It is possible that the existence of the regional organisation NORDINFO is a significant factor in the Swedish decision but there must be other factors as well to account for the difference from Danish and Finnish practice.

In France, MIDIST which had a responsibility for achieving inter-ministerial coordination, was replaced in 1985 by an organisation of more limited scope which was itself replaced shortly after by one entirely limited to action within one Ministry. According to reports, MIDIST was not able to make any substantial contribution to coordination and the feeling seems to be that the need is not for a strong coordinating body but rather a reviewing body to keep an overview and offer advice.

In Spain, CENIDOC was conceived (1975) as a coordinating body but it appears that such initiatives have now been assumed by the General Directorate for Science Policy within the Ministry of Education and Culture.

In the Netherlands the Organisation for Information Policy, NOBIN, has been superseded by a Bureau for Librarianship and Information Management, NBBI, which, when taken together with the transfer of Cobidoc's responsibilities for the online sector to private sector interests, seems to indicate that official service provision will be limited to the library and bibliographic field (eg. services like PICA) and that policy is to leave the information market and information services, especially electronic information services, to the private sector.

In Federal Germany a major change has been the virtual disbandonment of the Institute for Information and Documentation, GID, set up under the first I und D Program and the decision not to attempt to create a very large network of official Fachinformationzentren. Probably the reasons are part financial and part the policy of giving the private sector every opportunity to develop services.

An interesting major change in Hungary was the separation of the scientific information system, which is largely concerned with bibliographic access and document supply, from the technical information system which is concerned also with the creation of databanks and service to industry. The same separation occurs in Japan and may do in Spain, though in these cases it has not arisen as a result of splitting previously unified institutions.

The Australian attempt to set up a body for information policy and the cessation of interest was described in Chapter 11.

In the UK a change which is noteworthy was the decision to abandon the system of Industrial Liaison Officers, ILOs, which had been one of the successes of the 1960s. The Report of the Bolton Committee on the needs of small firms recommended the creation of Small Firms Information Centres in shop-like premises in city centres to which anyone could go when he chose rather than waiting for the visiting ILO. In the event it has been found that they serve a different function and that the ILOs, who continued under local support and were based on industrial research institutions or universitites, were a necessary service. Many of their functions have been built into the University/Industry liaison services which have grown up in recent years through local initiative but with official encouragement.

One conclusion that can be drawn is that many countries find it necessary from time to time to change the institutions they have created to handle coordination, R & D or policy advice. Flexibility needs to be built into any system and the ability to make changes when circumstances require it must be preserved.

Chapter 14

REGIONAL INSTITUTIONS AND POLICIES

There are three regional institutions which have importance for the STI field and national policies in the industrialised countries which this report has been studying. Also of importance is the OECD which is, of course, an institution concerned with the major industrialised countries of the market-economy areas of the world. Reference will also be made to a regional (transatlantic) consortium which has recently produced a policy statement.

The three regional organisations are, in alphabetical order,

DG XIII of the Commission of the European Communities
ICSTI set up by the Council for Mutual Economic Assistance, CMEA
and
NORDINFO set up by the Nordic Council of Ministers.

DG XIII

Directorate-General XIII of the CEC was created when the European Community (EC) had only six members. It was known for many years as the DG for Information Policy and Market but has more recently been entitled "Telecommunications, Information Industries and Innovation". Its main thrust over the years has been to create a market for information products, especially electronic ones, and an industry which would match the American one. Thus at a time when the PTTs could not provide an adequate network for online searching on their own, the DG initiated the EURONET. Its purpose was to enable all the countries of the EEC to be able to access on-line databases on host services in other EEC countries. It has encouraged host services to develop, tried to encourage them to use a common command language, and sponsored the creation of new databases through the award of contracts.

The current objectives are (EC1):

1. to create internal market conditions which will enable competitive supply of advanced information services in the EC
2. to strengthen the EC's position in the growing world information market, from the point of view of suppliers and users alike
3. to ensure that the potential economic, social and regional impacts are taken fully into account in information market initiatives.

To achieve this seven main action lines are being pursued (EC2):

a) raising the technological level of European industry through pre-competitive R & D programmes especially through multinational joint ventures.
b) making a reality of the potential european market in electronics, telecommunications and information services. One feature of this is establishing Standards and the ICONE (EC3) comparative index of Standards is a product of this action line.
c) encouraging transeuropean cooperation between industry and university.
d) reducing disparities between regions of the EC.
e) developing a European telecommunications policy.
f) stimulating innovation on a European scale, especially among small and medium sized firms via the SPRINT programme and transfer of technology.
g) bringing the EC's collective presence to bear in international and bi-lateral discussions on matters concerning the information market.

The main direction of the DG XIII programmes has always been the development of information services which provide data and hard information directly to the user in industry and commerce without the intervention of intermediaries. Recently a plan of action for libraries has also been started (EC4) which aims to promote:

i the availability and accessibility of modern library services throughout the EC taking particularly into account existing geographic discrepancies in library provision

ii a more rapid but orderly penetration of new information technologies in libraries in a cost effective way

iii standardisation

iv harmonisation and convergence of national policies for libraries. It should be added that another DG of the Commission is seeking to harmonise Copyright Law.

Since, in general, all the countries of the EC accept its policies, which are worked out in collaboration with representatives of national governments (in the case of DG XIII there are several well known committees of Government representatives CIDST, CITT and SOAG), the above policies should have appeared in the national policies of each of the EC countries. The view has been expressed (eg. during the discussion of national information policies held by FID in Helsinki in 1988) that one of the benefits of DG XIII's activities is that it creates nationally acceptable policies in circumstances where any attempt to do so within a country leads to inter- ministerial or inter-regional rivalry. There is no doubt that it beneficially creates policies and programmes in fields of activity which have had only very low priority in some of the smaller or less rich countries.

ICSTI

The International Centre for Scientific and Technical Information, ICSTI, was established in Moscow in 1969 by agreement among the governments of the CMEA countries. Its aim was to organise comprehensive mutual access to information resources and to set up an information basis for scientific and technical cooperation. As a means of achieving this the International System of STI (MNSTI) of the CMEA countries was set up. Its services help the participating countries to cope with the problems facing their national economies by the quickest and widest use of the world's achievements in science and technology. The establishment of MNSTI was formulated in the Comprehensive Programme for the further Extension and Improvement of Cooperation and the Development of Socialist Economic Integration of the CMEA member countries. (CM1)

The aims of the information policies of the individual countries, such as Czechoslovakia, Hungary and Poland reviewed earlier, are clearly reflected in the policies of ICSTI and equally it appears that ICSTI's activities affect the strategies adopted by each country. As in the case of the EC's DG XIII, particular attention is given to the development of the less industrialised countries in the grouping, in ICSTI's case Cuba, Mongolia and Vietnam.

NORDINFO

NORDINFO, founded 1976, is an intergovernmental agency within the field of Nordic cultural cooperation. Its activities are financed through the Nordic budget which is ratified by the Nordic Council of Ministers (NI 1).

Its general aim is to improve the transfer and use of information by promoting Nordic cooperation in the research library system, and in the fields of scientific information and documentation. It seeks to coordinate, initiate and support activities that make information of Nordic and non-Nordic origin more efficiently available to Nordic users within the scientific community, industry and the official authorities. It also aims to support activities that make information of Nordic origin more efficiently available to users outside the Nordic countries.

It can thus be seen that each of the Nordic countries has a policy in the information field, even if it is not written in national documents and even if officials allege that there is no information policy. The policy must be one of the development of research libraries and of scientific information and documentation services through cooperation with the other Nordic countries. It is, perhaps, interesting to note that in the NORDINFO aims mention of libraries comes first whereas in the EC's DG XIII's objectives the information market was the main target and libraries only a recent afterthought.

OECD

In the late 1960s and early 1970s the OECD Information Policy Group undertook a number of Reviews of STI Policy in member States. Two of these, those on Canada and Spain, have already been referred to in earlier chapters. The Reviews had three purposes:

first to help the country under review to assess action taken up till that time and to formulate plans to attain progress;

second to enable other countries to gain knowledge from the previous reviews and in so doing to improve their own understanding of aspects of scientific information policy, in particular its content, the role it plays and the mechanisms needed for it to succeed;

and third to lead to a more precise definition of the fields in which international cooperation can be most useful.

Countries reviewed were Canada, Ireland, Spain and Federal Germany. There can be no doubt that these reviews had a major impact on the STI scene in the industrialised market-economy countries at that time and that, although written before the present wave of high-technology low cost information technologies had started to have an impact, the reviews contain much that is still highly relevant and makes them worth continuing study.

The Glenerin Declaration

This Declaration arose from meetings between three official bodies, the Institute for Research on Public Policy of Canada, the British Library and NCLIS of the USA. Two other bodies associated with it are the Canada Institute of Scientific and Technical Information, CISTI, and the Department of Communications of the Government of Canada. Thus, even if it does not officially represent the national policies of the three countries, it must have a very close relationship to them.

The core of the Declaration is a set of eight recommendations, presumably addressed to the appropriate authority in each country (GL1):

1. a tri-national programme should be established urgently with the task of developing standardised measures of the impact of information resources on the economy.

2. the current round of GATT negotiations, which includes trade in services, should be recognised as one important avenue for developing such standardised measures; the tri-national programme should work in concert with the GATT round; and the views of all segments of the information sector (creators, processors and users) should be taken into account by the GATT negotiating teams of the three countries.

3. telecommunications providers should be encouraged to create the facilities for enhanced information exchange among households, academic and research groups, libraries, business and government; an effort should be made to require the adoption of common communications standards for on-line information systems; the development of open network systems, including the possibility of common carrier gateway services, should be encouraged so long as these do not in any way restrict the network access rights of other parties.

4. the application of intellectual property law should be re-examined with a view to removing unreasonable impediments to openness; a major area for consideration is that of secondary or derivative information (abstracts, indexes, etc) especially in the area of scientific, technical and medical information.

5. educational policy should be reviewed in the three countries both to develop and define the changing educational requirements of the workforce and of society, particularly with respect to the need for re-organising the existing institutional structure of continuing education or life-long learning in both the public and private sectors.

6. increased public awareness of the role of information and the skills and resources required for its effective utilisation should be fostered through inclusion of the teaching of such skills as a core component of the curriculum at the primary and secondary school levels and through the appropriate enhancement of the educational role of the library system in the three countries.

7. the national government in each of the three countries should acknowledge its responsibility to provide a coherent framework for the development of information policy which takes due account of the international character of the issues and the need for all segments of the information sector to be represented and heard in the process.

8. the government should explicitly recognise its responsibility to maintain public support for the creation and provision of certain information, through such means as the library system in each country, recognising that there is a minimum level of information which must be available to, and accessible by, all citizens regardless of means.

It remains to be seen what the results of this Declaration, made by official bodies, will be in each country.

Chapter 15

CONCLUSIONS

It will be apparent that the information field is a very broad one. It enters every part of social, cultural and economic life. It will equally be apparent that the interaction of activities involving information handling is very complex. A new technology can have quite unexpected and far reaching consequences. For these reasons no industrialised country attempts to have a policy for the whole field (though, as in Federal Germany, a programme for a large part of the field may be produced) and responsibility for it rests with the entire Government or the Legislature, not with one Minister. The unwillingness to have an information policy or a single Minister responsible for overall information policy has been bluntly stated by the UK government (GB 20) but is implicit in the actions of other governments, especially visible when strong recommendations to create a centre for information policy have not been acted upon (eg. Australia and the USA). Even where a government agency has taken it upon itself to try to draw together the threads of policy with a coherent whole (the Office of Management and Budget in the USA) in fact its remit and coverage has been quite narrow. Compare the resulting document (US 1) with the 200 or so public laws enacted in the US in a six year period covering such information policy categories as:-

> "telecommunications, broadcasting and satellite transmissions; information disclosures and confidentiality/right of privacy; government records, documents and paperwork; information inventories, programmes and clearing houses; dissemination of information; new information systems and computerised databases; library policies, procedures and assistance" (US 27)

Thus there is no dearth of policies; what there is not is a policy for the whole field.

Even if policy responsibility for the field has not been delegated to one Minister or one Agency, in some Countries Committees exist at ministerial level which may be chaired by the Prime Minister, Vice President or similar very senior Minister (Netherlands and, for a short while, Australia) though even at this level it is usual for the Inter-ministerial Committees to be responsible only for a sector, eg. Science and Technology, so that they are concerned only with information policies relevant to that field (Canada, CMEA countries, Japan and Spain).

Since information is vital to the activities of each Government department, it is common practice to give departments and agencies responsibility for information policy and practice in their own fields, taking such actions as are necessary for the pursuance of their objectives. Various methods have been used to try to achieve a measure of harmony of policy between them. Coordination within the framework of the State Plan, usually a five-year Plan, is normal within CMEA countries and responsibilities for setting standards of practice etc are carefully defined. Obviously, where in other countries Inter-ministerial committees exist these will help co-ordinate policies. In some countries, eg. Netherlands and UK, inter-departmental committees of officials exist though not always successfully (France disbanded MIDIST). Where a substantial part of the action in the information service sector is undertaken by the private sector, coordination may be impractical and resort has to be made to voluntary cooperation between the official, semi-official and private sector organisations (eg. Canada and the Nordic countries). The field covered by cooperative arrangements is of necessity limited (eg. scientific and technical information or libraries and documentation services) and may be encouraged by financial incentives.

Dividing the field between Ministries is explicitly the policy in France, the UK and the USA but is also implicitly so in Austria, Canada, Federal Germany, the Netherlands, the Nordic Countries and Spain, in each of which it has been possible to concentrate, for the purposes of this study, on the information policies of one Ministry, usually that of Research, or of Education, or of Science and Technology, with a rather more cursory look at the policies and practices of other Departments which impinge upon those of the Ministry being studied.

One of the causes of problems in examining the current policy field arises from the way the operations of some information services have broadened. Commonly starting from bibliographic information for the natural sciences and technologies they have extended first into economics and then into business and commercial information and into social information. They have also developed from merely bibliographic information into data and textual information. These changes combined with the ability of the new technologies to handle very large quantities of data and to transmit it instantaneously world-wide have led to interaction between those institutions who have handled only scientific data in the past and the financial world, for example, which needs information on individuals' financial status. From information for medical research, systems have been evolved for diagnosis and health care again leading to privacy/right to know/ public interest conflicts. This has been most marked in the market economy countries of western Europe and north America. Chartrand, of the Congressional Research Service commenting on the American scene says (US 27), "There has been a continuing struggle to establish a kinship between the pragmatic needs of the ultimate information .... user, the citizen, and those diverse groups in government and the private sector that collect, process and distribute data and information in all forms, and the philosophical cum institutional infrastructures which exist and govern."

It will be apparent that in the countries examined, the information sector is approached from different standpoints resulting in subdivisions of the field which differ. Thus in Austria, Canada, the C.M.E.A. countries, Federal Germany and Spain a field of practice, if not policy, is defined in subject terms, S&T, STEI or SI. In the Nordic Countries and the Netherlands the approach is rather one of libraries and documentation services though in Finland and Norway SI aspects predominate and in Denmark those of STI with a strong industry slant. In France, the UK and the USA there seem to be elements of many approaches in the attitudes of all players. Probably six main origins of the approaches can be detected:-

1. the natural sciences field, broadening as described already to STEI and SI and beyond.

2. the publishing and library sector compelled to use new technologies and, worrying for libraries, the capability to provide information directly to the work place rather than through libraries.

3. the commercial and financial sector where market research on the one hand and multi-site or world-wide transactional and data networks in the other have created policy problems.

4. computers, data processing, office automation and IT generally have created a technology push which combined with policies of stimulating the growth of national industries have been a very powerful influence.

5. telecommunications developments have led to questions of the requirements of the traditional information service sector in relation to those of the mass media.

6. the social sector with growing need for better information services accessible to all and concern about avoiding anti-social uses of information.

In Canada, Czechoslovakia, Hungary, Poland, Spain and the USSR, there are clearly information sectors whose main policy is to improve the availability of STI or STI for research, especially applied research, and hence to assist industrial development. In Federal Germany, although the focus is the Ministry of Research and a subject, SI, basic to the Programme, there is obviously a heavy policy emphasis in developing the information industry and the information market, reflecting the policies of the European Commission. The same applies in the UK where the policy of leaving as much information service provision as possible to the private sector, a policy shared by the USA, has been designed to stimulate the information industry.

The extent to which information policy sectors have grown out of the library sector varies interestingly. In Germany where library development appears to have been hampered by the Federal structure, the policies are I and D based. In Austria, where regional problems are less severe, the SI policies appear to have a strong library element. In the USA, where despite the Federal structure the library movement is very strong, many policies reflect library involvement. But it appears that there and in the UK and Australia, the libraries element is not politically a strong one and the main thrust of information policies is coming from industry, commerce, telecommunications and the social sectors leading, in the UK case at least, to the principal library institutions allying themselves to private sector information and communication industry interests. Nor in France or Japan have the information activities been born of libraries. Rather the emphasis has been the development of commercially viable information services and the development of the IT industry.

In addition to policies for library development for I & D or for IT, one also sees other policy sectors which affect the STI or STEI field which tend to operate independently for much of the time but every so often are brought into consideration in the field. Prominent among these are the intellectual property sector i.e. patents and copyright, and standards. In planned economy countries these are brought within the remit of the national plan and even, as in the USSR and Czechoslovakia, an agency in the national science information system may have responsibility for devising or authorising the standards to be used.

Although information is pervasive throughout all activities, information policy (in so far as it is possible to use that term in view of what has been said previously) is to treat information as a service and hence a subordinate feature. STI services are then to serve the achievement of science and technology objectives. This is observable in Canada, Spain, the CMEA countries, Japan, Finland and Austria. Whilst it is probably true for other countries, policies and strategies for their information services are not usually derived from those for science and technology.

Also, as has been seen, information policies are formulated or reformulated to fit the pattern of general government policies and the degree to which they do so and the degree to which they are seen to be important to achieving the aims of government priorities is likely to be reflected in the funding provided. Other broader policies can also in some countries constrain the information sector or part of it. Thus information policies must support economic, industrial, social and educational policies. They must facilitate regional policies though often these create serious problems especially where language barriers (Belgium and Canada) or administrative barriers create problems for cooperation. On the other hand, in some countries, the institutions in the countries of the Federal State and their subregional institutions are seen as a source

of strength and they are used to ensure that services are provided and generated locally. This is particularly noticeable in the USSR, Czechoslovakia and the USA.

Examples of Government policies which greatly affect the information sector can be those aimed at reducing government involvement in service provision, or at stimulating enterprise among small and medium sized firms, or at increasing the health of the population. There can be little doubt that perestroika is already having its impact in the USSR on the re-assessment of priorities within the SSTIS programmes.

In general, however, in industrialised countries, information policies start from a set of basic premises that are accepted, whether or not they are written into policies and plans. These are that, except in such special circumstances as will be defined in policy statements, factual information of potential research, economic or social value should be collected and disseminated or made accessible; that organisations and individuals should be encouraged to make efficient and effective use of information; that information from foreign as well as national sources should be available as far as economic circumstances permit. Policies also start from a situation that many information services already exist. Policies may differ in the extent to which services should be available to those in other countries, should be free of charge or commercially self supporting (or partly revenue earning), should be provided by official sources or provided by the private sector, and the extent to which and in what terms official information should be made available to the private sector services. Since services exist and have done now for many years, policies are concerned more with change and stimulation than with creation.

Forming and implementing policies

Policies do not, except in rare circumstances,suddenly get formulated. Problems of the balance of interests and the choices between courses of action arise and are highlighted in various ways. Once awareness occurs there is then a need to investigate, to research the situation, to explore possible solutions and to advise on policy options.

A wide variety of ways of doing this emerge. In most countries one or two institutions have been set up which can either research the problems themselves or can organise and fund studies. Such institutions are DANDOK (Denmark), TINFO (Finland), CISTI (Canada), VINITI (USSR), CINTE (Poland), OMKDK and Academy of Sciences (Hungary), JICST and NACSIS (Japan), NBBI (Netherlands), UVTEI (Czechoslovakia), BLR & DD (UK) and NCLIS, NSF and others (USA). In France several Ministries each have their own remit - DBMIST, DIST, INIST etc. In general such institutions may provide information services, coordinate or assist achieve cooperation, carry out or fund research and advise on policy, though rarely all four.

Committees which may involve members of the legislature or may be entirely comprised of outside specialists may be set up. Much depends on normal national practice. The USA has Committees of enquiry - France seems to prefer one or two experts. A glance through the historical section will give an impression of the enormous number of reports that have emerged from such bodies. Their work may be funded from the legislature or from the government department or official agency they are advising.

Advisory groups may be permanent or merely called into existence as required. Permanent ones include ABSTI (Canada). RABIN (Netherlands) and LISC (UK). In market economy countries, advisory groups are formed by the private sector (GFFIL - France, CICI - UK, IIA - USA) which establish a dialogue with the government departments. Policy guidelines can also emerge from high level committees set up by Government to cover a broader remit than just the information sector (eg ACARD, UK).

Publishing the policies

In some countries a plan or programme may be published or at least a framework for a plan (Austria, USSR, Czechoslovakia, Poland, Spain, Japan). Even if this is published it is likely that it will be followed by a number of decrees. Decrees are also published when there is no programme as in France. Otherwise Acts of Legislation and announcements of government policy in various media are issued. Within government, policy may be converged by inter-departmental memoranda which may or may not be publicly available according to the degree of openness practised by government.

In general, the number of different methods of creating and publishing policy is least in those countries that produce plans or programmes for the field, greatest in those that, like the UK and USA, do not.

Coverage and resource aspects

Although, as said at the outset, policies will exist for an enormous range of information categories, and although a great deal is left to the discretion of the various agencies to decide what needs to be covered within the terms of reference they and their present institutions have, a few general observations may be useful.

First there does seem to be a distinction drawn, though not defined, between information policies aimed at the specialised service field and those for the mass communications market, though in terms of the use of the technologies this is less and less true and the mass media techniques are being used to enable the specialised services to penetrate markets more easily (eg Minitel and electronic directories).

A tendency to define coverage in traditional terms of types of publication included is still visible, particularly when there are plans or programmes, but gradually there is a move aways from this, though leaving a residue of policies specifically aimed at the documentary and library sectors. Instead policies are more user oriented or technology oriented.

Much, of course, depends on the national situation. In many countries policies are still in force or being created to improve access to printed publications. In the UK this is not so because an agency has been created which, for most purposes deals with such matters and only a few special types of publication cause difficulty and hence do not merit the sledge-hammer of policy. This is not true of electronic publishing; transmission and messaging and policies are still evolving for that in all countries.

Manpower planning, education and training occurs in the plans and programmes but is not usually a policy concern in those countries which do not publish programmes. In general, education and training for the information field is left to the usual mechanisms with the exception of the computer field where there are policies to encourage more students.

Lastly, whatever policies may exist for developing the information field, in most countries official budgets are shrinking in real terms. In several this is deliberate government policy, in others it is the result of economic circumstances. This tends to accelerate any policies to privatise or to develop commercial markets for information services. It also tends to concentrate local policies in government service units on how to cope with less and on what to cut out or how to manage with reduced staff numbers. In the end policies have to be based on what it is practicable to achieve, which is a fundamental policy in itself.

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

ABSTI	Advisory Board for Scientific and Technical Information (Canada)
ACORDD	Advisory Committee for the Research and Development Department (of the British Library)
ACSTI	Advisory Council for Scientific and Technical Information (UK - replaced by ACORDD)
ARIST	Agence Règionale de l'Information Scientifique et Technique (France)
BL	British Library
BLR&DD	British Library Research and Development Department
BMFT	Bundesministerium für Forschung und Technology (Ministry for Research and Technology, Germany)
CAN/OLE	Canadian on-line enquiry service
CDST	Centre de Documentation Scientifique et Technique
CDSH	Centre de Documentation des Sciences Humaines
CENIDOC	National Centre for Scientific Information and Documentation (Spain)
CEC	Commission of the European Communities
CICI	Confederation of Information and Communication Industries (UK)
CINTE	Centre for Scientific, Technical and Economic Information (Poland)
CISTI	Canada Institute for Scientific and Technical Information
CMEA	Council for Mutual Economic Assistance
Cmnd	Command (Coding given to documents published by HMSO at the 'command' of Parliament)
CNRS	Centre National de la Recherche Scientifique (France)
COBIDOC	Committee for Bibliography and Documentation (Netherlands)
DANDOK	Danish Documentation Committee
DBMIST	Direction des Bibliothèques, des Musées et de l'Information Scientifique et Technique
DG	Directorate-General
DIST	Délégation à l'Information Scientifique et Technique
DIXIT	Délégation à l'Information, la Communication et la Culture Scientifique et Technique
DOC	Department of Communications (Canada)
DTO	Danish Technical Information Service
FID	International Federation for Information and Documentation
FIZ	Fachinformationszentrum
FOIA	Freedom of Information Act (USA)
FUINCA	Foundation for the Automated Scientific Information Network (Spain)
GID	Gesellschaft für Information und Dokumentation
HMSO	Her Majesty's Stationery Office (UK)
IAC	Information analysis centre
IBIM	Institute for Biomedical Information (Spain)
ICCSTI	Interdepartmental Coordinating Committee for Scientific and Technical Information (UK
ICSTI	International Center for Scientific and Technical Information (USSR)
ICYT	Institute for Science and Technology (Spain)
I&D	Information and Documentation
IINTE	Institute for Scientific, Technical and Economic Information (Poland)
INCA	Automated Scientific Information Network (Spain)
INIST	Institut National de l'Information Scientifique et Technique
INPADOC	International Patent Documentation Center (Austria)
INPI	Institut nationale pour la propriété industrielle (French patent and trade mark office)

ISOC	Institute for Humanities and Social Sciences (Spain)
IT	Information technology (particularly the modern ones)
ITAP	Information Technology Advisory Panel (UK)
JAICI	Japan Association for International Chemical Information
JAPIC	Japan Pharmaceutical Information Centre
JAPIO	Japan Patent Information Organization
JICST	Japan Information Center for Science and Technology
LIS	Library and information science (or services)
LISC	Library and information services committee(UK)
MCI	Interministerial Committee for Information
MIDIST	Mission Interministérielle de Documentation et d'Information Scientifique et Technique
MITI	Ministry for Industry and Technology (Japan)
NACSIS	National Center for Science Information Systems (Japan)
NBBI	Netherlands Bureau for Librarianship and Information Management
NCLIS	National Council for Libraries and Information Services (USA)
NIDER	Netherlands Institute for Information and Documentation Management
NIST	National information plan for science and technology (Japan)
NOBIN	Netherlands Organisation for Information Policy (now NBBI)
NSF	National Science Foundation (USA)
OAL	Office of Arts and Libraries (UK)
ODK	National documentation centre (Hungary)
OECD	Organisation for Economic Cooperation and Development
OMB	Office of Management and Budget (USA)
OMFB	National Committee on Technical Development (Hungary)
OMIKK	Országos Müszaki Információs Kozpont és Konyvtár (Hungarian Technical Information Centre and Library)
OMKDK	Hungarian National Technical Library and Documentation Centre (after 1980 became OMIKK)
OSTI	Office for Scientific and Technical Information (UK) - now BLR&DD
OTA	Office for Technology Assessment (USA)
PICT	Programme for Information and Communication Technologies (UK)
PL	Public Law (USA)
PM	Prime Minister
PTT	National authority for post, telephone and telegraph
PUDOC	Netherlands centre for agricultural information
R&D	Research and Development
RABIN	Advisory Council for Librarianship and Information Management (Netherlands)
SSTIS	State Scientific and Technological Information System (USSR)
STA	Science and Technology Agency (Japan)
STEI	Scientific, technical and economic information
STI	Scientific and technical information
TIC	Regional Business Development Centres (Denmark)
TINFO	Finnish Council for Scientific Information and Research Libraries (Tieteelisen informoinnin neuvosto)
TNO	Netherlands Institute for Applied Research
UVTEI	Ústředí vědeckých, technických a ekonomických informací (Centre for STEI) (Czechoslovakia)
VINITI	All-Union Institute for Scientific and Technical Information (USSR)
WVC	Ministry of Welfare, Health and Cultural Affairs (Netherlands)

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APPENDIX 2

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APPENDIX 3

ADDITIONAL BIBLIOGRAPHY

A bibliography on national information policies would be a book in itself. The following are first a number of items sections of which were found useful, though they were not referred to in the text, or that have been recommended by respondents. It is regretted that some references are incomplete: this is because the whole items were not always to hand. Then, second, follow two bibliographies as their authors submitted them.

Austria

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APPENDIX 3A

BIBLIOGRAPHY - CZECHOSLOVAKIA

compiled by Dr. V. Stefanik

LIST OF RULES

applicable for the System of scientific, technical and economical information (VTEI) in the ČSSR and related fields of activities

(Published and publicly accessible documents)

Part 1

Principal rules for the field of scientific, techical and economical information.

A. Organization of the System of scientific, technical and economical information and its individual subsystems.

1. Decree No.21/1985 of the State Committee for Science, Technology and Investments on the System of scientific, technical and economical information/Vyhláška SKVTIR č.21/1985 Sb.o soustavě VTEI/

2. Decree No.91/1985 on the system of information data related to properties of materials/Vyhláška č.91/1985 Sb.o systému informačních údajů o vlastnostech látek a materiálů/

3. The No.84/1972 Act on discoveries, inventions, innovation proposals and industrial designs/An excerpt/Zákon č.84/1972 Sb. o objevech, vynálezech, zlepšovacích návrzích a průmyslových vzorech/výtah/

4. Guidelines of the Office for Inventions and Discoveries for the management of the information system on inventions in the ČSSR/Směrnice ÚVO pro řízení státního systému informací o vynálezech v ČSSR/

5. Guidelines of the Federal Ministry for Technology and investments No.2/1973 on recording of research reports and graduate theses/Směrnice FMTIR č.2/1973 o evidenci výzkumných zpráv a obhájených disertací, reg.částka 32/1973 Sb./

6. Guidelines of the Federal Ministry for Technology and Investments No.6/1972 on recording of travel reports/Směrnice FMTIR č.6/1972 o evidenci cestovních zpráv, reg.částka 22/1972 Sb./

7. Methodical instructions of the Central Institute for Scientific, Technical and Economical Information to the No.6/1972 Guidelines, see /6// /Metodické pokyny ÚVTEI ke směrnici FMTIR č.6/1972 o evidenci cestovních zpráv/

8. Instructions for implementation of the decree on central filing of translations of professional reference works, issued by the Central Institute for Scientific, Technical and Economical Information, dated November 26, 1968 / Prováděcí pokyny ÚVTEI ze dne 26.11.1968 o ústřední evidenci překladů odborné literatury/

9. Decree of the Ministry for Schooling and Culture, and the State Committee for Science and Technology No.110/1965 Sb., on filing of foreign reference works / Vyhláška MŠK a SKVT č.110/1965 Sb.o evidenci zahraničnĕ literatury/

10. Methodical instructions No.12 to the No.110/1965 Sb. Decree on filing of foreign reference works / Metodické pokyny č.12 k vyhlášce č.110/1965 Sb.o evidenci zahraničnĕ literatury/

B. Funding and pricing

1. Decree of the Federal Ministry for Finance, Ministry for Finance of the Czech Socialist Republic, and Ministry for Finance of the Slovak Socialist Republic No.118/1984 Sb. on funding of non-investment type costs related to the development of science and technology / Vyhláška FMF, MF ČSR a MF SSR č.118/1984 SB.o financování neinvestičních výdajů na rozvoj vědy a techniky/

2. Guidelines of the Federal Ministry for Finance, Ministry for Finance of the Czech Socialist Republic, and Ministry for Finance of the Slovak Socialist Republic No.101/1972 on funding of certain costs involving budgetary and contributions-funded organizations/Excerpt/ Směrnice FMF, MF ČR a MF SSR č.101/1972 o financování některých výdajů rozpočtových a příspěvkových organizací, reg. částka 7/1973 Sb./výtah/

3. Decree of the Federal Office for Prices and Slovak Office for Prices No.V-1/82 on prices negotiated by agreement between suppliers and buyers/Výnos FCÚ-ČCÚ a SICÚ č.V-1/82 / o cenách sjednávaných dohodou mezi dodavatelem a odběratelem, reg.částka 17/1982 Sb/.

C. Economical cooperation

1. Decree of the Federal Ministry for Technology and Investments No.181/1982 Sb.on principal conditions of supplies for ensuring scientific and technical development / Vyhláška FMTIR č.181/1982 Sb. o základních podmínkách dodávky k zabezpečení vědeckotechnického rozvoje/

2. Decree of the Federal Office for Statistics No.49/1985 Sb. on principal conditions of the supply of labour and services in the field of automatic data processing / Vyhláška FSÚ č.49/1985 Sb.o základních podmínkách dodávky prací a služeb v oblasti automatizovaného zpracování dat/

D. Information base of the System of scientific, technical and economical information

1. Act No.53/1959 Sb. on the unified system of libraries/Libraries Act/Zákon č.53/1959 Sb.o jednotné soustavě knihoven/knihovnický zákon/

2. Decree of the Ministry for Schooling and Culture No.51/1963 on supervision of libraries within the unified library system, and on the inter-librarian borrowing service/Vyhláška MŠK č. 51/1963 Sb.o evidenci knihoven jednotné soustavy a o meziknihovní výpůjční službě/

3. Decree of the Ministry for Schooling and Culture No.140/1964 Sb. on obligatory and working impressions as implemented by the Decree of the Ministry for Culture of the Slovak Socialist Republic No.132/1971 Sb./Vyhláška MŠK č.140/1964 Sb.o povinných a pracovních výtiscích ve znění vyhlášky MK SSR č.132/1971 Sb/.

4. Guidelines of the Ministry for Culture of the Czech Socialist Republic No.10284/69 on recording and auditing of library stock in the unified system of libraries, as implemented by the Guidelines of the Ministry for Culture of the Czech Socialist Republic No.12216/83-11/2/ Směrnice MK ČSR čj. 10284/69 o evidenci a revizi knihovních fondů v knihovnách jednotné soustavy reg.částka 29/1977 Sb., ve znění směrnice MK ČSR čj.12216/83-11/2 reg.částka 25/1983 Sb/.

5. Guidelines of the Ministry for Culture of the Slovak Socialist Republic No.2783/73-osv on recording, auditing and discarding of library stock in the unified system of libraries/Směrnice MK SSR č.2783/73-osv o evidenci, revizi a vyřazování knihovních fondů v knihovnách jednotné soustavy/

6. Instruction of the Federal Ministry for Foreign Trade No.4/1986 on the information system of foreign trade organizations and on proceedings related to ensuring evaluation and submission of information on technical development, innovations and product quality, both domestic and abroad produced/Instrukce FMZO č.4/1986 o informačním systému organizací zahraničního obchodu a postupu při zabezpečování, vyhodnocování a předávání informací o technickém rozvoji, inovacích a kvalitě výrobků zahraničních i tuzemských/

7. Principles for guidance of the construction of automatic phenomenalistic systems of scientific, technical and economical information /Zásady pro usměrňování výstavy automatizovaných faktografických systémů vědeckých, technických a ekonomických informací/

8. Instructions of the Federal Ministry for Technology and Investments No.6/1979 on principles of unified introduction and use of selection languages /Pokyny FMTIR č.6/1979 k zásadám jednotného zavádění a využívání selekčních jazyků/

Part II
Review of the most important related instructions

E/ In the field of social, economical and statistical information

1. The No.21/1971 Act on the unified system of social-economical information / Zákon č.21/1971 Sb.,o jednotné soustavě sociálně ekonomických informací/

2. The No.40/1972 Act of the Czech National Council on effects of the Czech Socialist Republic authorities in the field of social-economical information / Zákon ČSR č.40/1972 Sb.o působnosti orgánů ČSR v oblasti sociálně ekonomických informací/

3. The No.41/1972 Act of the Slovak National Council on effects of the Slovak Socialist Republic authorities in the field of social economical information / Zákon SNR č.41/1972 Sb.o působnosti orgánů SSR v oblasti sociálně ekonomických informací/

4. Decree of the Government of the Czechoslovak Socialist Republic No. 153/1971 on the information system of organizations / Nařízení vlády ČSSR č. 153/1971 Sb.,o informační soustavě organizací/

F/ In the field of planning information

1. The No.145/1970 Act on planning in the economy / Zákon Č.145/1970 Sb.o národohospodářském plánování/

G In the field of archival activities

1. The No.97/1974 Act of the Czech National Council on archives-keeping / Zákon ČNR Č.97/1974 Sb.o archívnictví/

2. The No.149/1975 Act of the Slovak National Council on archives-keeping / Zákon SNR Č.149/1975 Sb.o archívnictví/

3. Decree of the Ministry of Interior of the Czech Socialist Republic No.117/1974 determining the criterions for assessment of documents as public records for archives, and details related to destroying of documents / Vyhláška MV ČSR Č.117/1974 Sb.,kterou se stanoví kriteria pro posuzování písemností jako archiválií a podrobnosti skartačního řízení/

4. Decree of the Ministry of Interior of the Czech Socialist Republic No.118/1974 Sb. on archives in enterprises / Vyhláška MV ČSR Č.118/1974 Sb.o podnikových archívech/

5. Decree of the Ministry of Interior of the Slovak Socialist Republic No.62/1976 on amendments of certain details in the creation, cancellation and organization of archives in enterprises /Vyhláška MV SSR Č.62/1976 Sb., kterou se upravují některé podrobnosti o zřizování, zrušování a organizaci podnikových archívů/

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H/ In the field of telecommunications

1. The No.110.1964 Act on telecommunications as implemented by the No.146/1971 Act of the Czech National Council, and the No.159/19/1 Act of the Slovak National Council / Zákon Č.110/1964 Sb.o telekomunikačních .. znění zákona ČNR Č.146/1971 Sb.a zákona SNR Č.159/1971 Sb./

2. Decree of the Central Communications Administration No.111/1964 related to the implementation of the Telecommunications Act as stipulated by the No.92/1974 Decree and the No.148/1984 Decree /Vyhláška Ústřední správy spojů Č.111/1964 Sb.,kterou se provádí zákon o telekomunikačních ve znění vyhlášky Č.92/1974 Sb.a vyhlášky Č.148/1984 Sb./

3. Decree of the Federal Ministry for Communications No.144/1973 on line telecommunication equipment operated outside of the unified telecommunications network / Vyhláška FMS Č.144/1973 Sb.o dratových telekomunikačních zařízeních provazovaných mimi jednotnou telekomunikační síť/

4. Decree of the Federal Ministry for Communications No.9501/82 introducing the Data Transfer Rules /Výnos FMS Č.j.9501/82,kterým se vydává Řád přenosu dat/

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A P P E N D I X 3 B

ADDITIONAL BIBLIOGRAPHY - FRANCE

compiled by Professor Jean Meyriat

- I -

TEXTES LEGISLATIFS ET REGLEMENTAIRES

RAPPORTS DE COMMISIONS

- Liberté de communication
- Accés á l'information et libertés individuelles
- Accés aux documents administratifs
- Statistiques officielles
- Droits d'auteur

LIBERTE DE COMMUNICATION

- Loi n° 82-652 du 29-7-82 sur la communication audiovisuelle
- Loi n° 86-1067 du 30-9-86 relative á la liberté de communication

Parmi les travaux préliminaires:

- Rapport fait au nom de la Commission des affaires culturelles, familiales et sociales sur le projet de loi relatif á la liberté de communication par M. Péricard, député (Assemblée nationale, 8e législature, 3e session extraordinaire 1985-86, n°339).

ACCES A L'INFORMATION ET LIBERTES INDIVIDUELLES

I. - LOI

- Loi n° 78-17 du 6-1-78 relative á l'informatique, aux fichiers et aux libertés.

II. - TEXTES d'APPLICATION DE LA LOI DU 6 JANVIER 1978 :

- Décret n°78-774 du 17 juillet 1978 pris pour l'application des chapitres ler á IV et VII de la loi n°78-17 du 6 janvier 1978 relative á l'informatique, aux fichiers et aux libertés (modifié par décrets n°78-1223, 79-421 et 80-1030).
- Décret n°79-1160 du 28 décembre 1979 fixant les conditions d'application aux traitements d'informations nominatives intéressant la sureté de L'Etat, la défense et la sécurité publique de la loi n°78-17 du 6 janvier 1978 relative á l'informatique, aux fichiers et aux libertés.

- Décret n°81-1142 du 23 décembre 1981 instituant des contraventions de police en cas de violation de certaines dispositions de la loi n°78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés.

- Décret n°82-525 du 16 juin 1982 relatif à la redevance prévue à l'article 35 (alinéa 2) de la loi n°78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés.

- Décret n°82-103 du 22 janvier 1982 relatif au répertoire national d'identification des personnes physiques.

ACCES AU DOCUMENTS ADMINISTRATIFS

I. - LOIS

- Loi N°79-18 du 3 janvier 1979 les archives.

- Loi n°78-753 du 17 juillet 1978 portant diverses mesures d'amélioration des relations entre l'administration et le public et diverses dispositions d'ordre administratif, social et fiscal (titre Ier : [illegible] liberté d'accès aux documents administratifs.

- Loi n°79-587 du 11 juillet 1979 relative à la motivation des actes administratifs et à l'amélioration des relations entre l'administration et le public.

- Loi n°85-699 du 11 juillet 1985, tendant à la constitution d'archives audiovisuelles de la justice.

II. - TEXTES REGLEMENTAIRES

- Décret n°79-834 du 22 septembre 1979 portant application de l'article 9 de la loi n°78-753 du 17 juillet 1978 en ce qui concerne la liberté d'accès aux documents administratifs.

- Décret n°79 1037 du 3 décembre 1979 relatif à la compétence des services d'archives publics et à la coopération entre les administrations pour la collecte, la conservation et la communication des archives publiques.

- Décret n°79-1038 du 3 décembre 1979 relatif à la communicabilité des documents d'archives publiques.

- Décret n°79-1039 du 3 décembre 1979 relatif à la délivrance de visas de conformité des copies, reproductions photographiques et extraits des documents conservés dans les dépots d'archives publiques.

- Décret n°79-1040 du 3 décembre 1979 relatif à la sauvegarde des archives privées présentant du point de vue de l'Histoire un intérêt public.

- Décret n°79-1035 du 3 décembre 1979 relatif aux archives de la défense.

- Décret n°80-975 du 1er décembre 1980, relatif aux archives du ministère des affaires étrangères.

- Circulaire AD 79-6 du 31 décembre 1979 relative au traitement des documents des archives départementales postérieures au 10 juillet 1940.

STATISTIQUES OFFICIELLES

I. - LOI

- Loi n°51-711 du 7-6-1951 sur l'obligation, la coordination et le secret en matière de statistique.

  modifiée par la loi sur les archives n°79-18 du 3-1-1979 et les décrets n°59-1350 du 16-11-1959, n°62-275 du 12-3-1962, n°72-1103 du 8-12-1972.

II. - TEXTE D'APPLICATION

- Décret 72-1104 du 8-12-72 fixant les attributions, la composition et le fonctionnement du Conseil national de la Statistique et portant application de la loi n°51-711 du 7-6-1951 modifiée sur l'obligation, la coordination et le secret en matière de statistique.

DROITS D'AUTEUR

I. - LOIS

- Loi n°57-298 du 11 mars 1957 sur la propriété littéraire et artistique modifiée par la loi n°85-98 du 25 janvier 1985 et la loi n°85-660 du 3 juillet 1985.
- Loi n°57-803 du 19 juillet 1957 instituant une limitation des saisies-arrets en matière de droit d'auteur.
- Loi n°64-689 du 8 juillet 1964 sur l'application du principe de réciprocité en matière de protection du droit d'auteur.
- Loi n°85-660 du 3 juillet 1985 relative aux droits d'auteur et aux droits des artistes-interprétes, des producteurs de phonogrammes et de vidéogrammes et des entreprises de communication audiovisuelle.

  modifiée par la loi n°86-1067 du 30 septembre 1986.

II. - TEXTES REGLEMENTAIRS

- Décret n°58-446 du 19 avril 1958 portant réglement d'administration publique pour l'application dans les départements d'outre-mer de la loi du 11 mars 1957.
- Décret n°58-447 du 19 avril 1958 portant réglement d'administration publique pour l'application dans les territoires d'outre-mer de la loi du 11 mars 1957.
- Décret n°67-181 du 6 mars 1967 pris pour l'exécution de la loi n°64-689 du 8 juillet 1964.
- Décret n°86-1074 du 26 septembre 1986 pris pour l'application du titre IV de la loi n°85-660 du 3 juillet 1985 relative aux sociétés de perception et de répartition des droits.

Parmi les travaux préliminaires à la loi du 3-7-85 :

- Rapport fait au nom de la Commission spéciale sur le projet de loi relatif aux droits d'auteur et aux droits des artistes-interprétes, des producteurs de phonogrammes et de viéogrammes et des entreprises de communication audiovisuelle, par Ch. Jolibois, sénateur (Sénat, 2e session extraordinaire 1984-85, n°212).

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- au Président de la République

o L'informatisation de la société
Rapport au Président de la République, par S. Nora et A. Minc. Paris, DF 1978.

o L'information économique et sociale
Rapport au Président de la République par R. Lenoir et B. Prot. Paris, DF 1979.

o Les bibliothèques en France
Rapport au Premier ministre établi en juillet 81 par un groupe interministériel présidé par P. Vandevoorde. Paris, 1982.

o Les flux transfrontières d'informations et de données
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o Les perspectives de l'informatique dans l'administration
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o Les technologies d'information : enjeu stratégique pour la modernisation économique et sociale
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o L'informatisation des collectivités locales
Rapport au Premier Ministre par G. Saumade. Paris, DF 1986.

- III -

RAPPORTS OU ETUDES EMANANT D'INSTITUTIONS OFFICIELLES

AYANT DES MISSIONS PARTICULIERES :

- Commission nationale de l'informatique et des libertés (CNIL)
- Conseil d'Etat
- Institut national de l'audiovisuel / Institut national de la communication audiovisuelle (INA, INCA)
- Institut national de la statistique et des études économiques (INSEE)

- La communication : besoin social ou marché ? INA. Paris, DF, 1980.
- Presentation du système statistique français. Paris, INSEE, 1981.
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- Dix ans d'informatique et libertés. CNIL. PARIS, 1988.
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RELEVANT DE DIFFERENTS MINISTERES :

- ADI
- BNST (cf. VI)
- CCDA (cf. VI)
- DBMIST (cf. VI)
- MIDIST
- Mission à l'informatique
- SCOM

o Pour une politique en matière d'information pour l'industrie et l'implantation de services décentralisés d'information. BNIST, 1977.

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o La formation continue des documentalistes dans l'administration. Premier Ministre. CCDA. Paris, 1978.

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notamment :

- le vol. III : Informatique, télématique et vie quotidienne
- le vol. IV : Informatique, coopération internationale et indépendance
- le vol. V : Informatique et démocratie.

N.B. Ce document, de par son sujet, déborde le cadre strictment national.

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o L'information sans frontière. Ministère de l'Industrie. Mission à l'Informatique. Paris, DF, 1980.

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o Les PMI et les banques de données. Ministère de la recherche et de l'industrie. MIDIST. DF, 1982.

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- Recherche et enseignement supérieur
- Recherche et industrie
- PTT

o Documentation, bibliothèques, musées. ONISEP. Ministère de l'Education Nationale. Paris, 1982.

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- o L'information automatisée : répertoire des systèmes de documentation français ou accessibles en France. Ministère de l'Industrie, BNIST. Paris, DF, 1978.

- o Catalogue des instruments de recherche des archives départementales, communales et hospitalières. Paris, Archives nationales. DF, 1981.

- o Guide des centres d'information et de documentation des administrations. CCDA. Paris, DF, 1982.

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- o Les banques de données des centres de documentation des administrations et des collectivités publiques. Ministère de l'Education nationale. Groupe permanent d'études des marchés. Paris, 1984.

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- o Banques de données de l'université et du CNRS. DBMIST. Paris, 1986.

- o Le dispostif télématique français. F. Kenn. Université Louis Pasteur. Faculté des sciences économiques. Strasbourg, Université Louis Pasteur, 1988.

- o La gestion des publications officielles. M.-C. Marquet et P. Pelou. Report for DBMIST. Paris, La Documentation Francaise, 1988.

- o Image et vidéodisque. S. Cacaly. Report for DBMIST. Paris, La Documentation Francaise, 1988.

- o Science technology in France and Belgium. E.W. Kellermann. London, Longmans, 1988. (ISBN 0582 00084 X)

APPENDIX 4

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NORDINFO:	Ann-Britt Ylinen, Secretary General

Norway:	Nils Gram, Riksbibliotektjenesten Elsa Granheim, Statens Bibliotektilsyn
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United Kingdom:	Kenneth R. Cooper, British Library Brian Perry and Michael Hamilton, BLR&DD John Martyn, consultant John Gray, retired
U.S.A.	Toni Carbo Bearman, University of Pittsburgh Susan K. Martin and Robert E. Dugan, NCLIS Robert L. Chartrand, Congressional Information Service
USSR:	P.V. Nesterov, VINITI

APPENDIX 5

ADDRESSES OF INSTITUTIONS CITED

AUSTRIA:	Bundesministerium für Wissenschaft und Forschung Minoritenplatz 5, 1014 Wien, Austria.
CANADA:	Canada Institute for Scientific and Technical Information, National Research Council, Ottawa, Canada, K1A 052
CZECHOSLOVAKIA:	Ústředí vedeckých,technických a ekonomických informací, Referencnè stredisko o zdrojích VTEI, Konviktská 5, 113 57 Praha 1, Czechoslovakia.
DENMARK:	DANDOK, Holmens Kanal 7, DK-1060 Copenhagen K, Denmark.
FINLAND:	TINFO, Rauhankatu 9B, PL 293 PB, SF-00171 HELSINKI, Finland.
FRANCE:	DBMIST, 3-5 boulevard Pasteur, 75015 PARIS, France.
	DIST, Ministère de la Recherche, 1 rue Descartes, 75231 PARIS. CEDEX 05 France.
GERMANY (Federal Republic)	Bundesministerium für Forschung und Technologie, Heinemann St.2, 5300 BONN 2
HUNGARY:	OMIKK, Múzeum v.17 POB 12, H-1428 BUDAPEST, Hungary.
JAPAN:	JICST, 5-2 Nagatacho 3 Chome, Chiyoda-Ku, CPO Box 1478, TOKYO, Japan.
	NACSIS, 3-29-1 Otsuka, Bunkyo-Ku, TOKYO 112, Japan.

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NETHERLANDS:	NBBI, Burg Van Karnebeeklaan 19, 2585 BA 's-Gravenhage NETHERLANDS. RABIN, Prins Willem Alexanderhof 5, PO Box 95314, 2509 CH 's-Gravenhage, NETHERLANDS
NORWAY:	Riksbibliotektjenesten, P.O.B. 2439 Solli, N-0202 OSLO 2, Norway.
POLAND:	IINTE, ul Jasna 14/16, 00-041 WARSAW, Poland.
SPAIN:	Comisión Interministerial Ciencia Y Tecnologia, Vicesecretaria de Información Científica y Técnica, Rosario Pino 14-16, 28020 MADRID, Spain.
U.K.:	BLR & DD 2 Sheraton Street, London W1V 4BH
USA:	NCLIS, 1111 18th Street N.W., Suite 310, WASHINGTON D.C. 20036, U.S.A.
USSR:	VINITI, ul Usievicha 20a, MOSCOW 125219, USSR.
COMMISSION OF THE EUROPEAN COMMUNITIES:	D.G. XIII, Jean Monnet Building, Kirchberg, LUXEMBOURG.
CMEA:	ICSTI, ul Kuusinen 21-b, MOSCOW 125252, USSR.
NORDIC COUNCIL:	NORDINFO, c/o Teknillinen Korkeakoulu Kirjasto, Otaniementie 9, SF 02150 Espoo, FINLAND.

APPENDIX 6

QUESTIONNAIRE USED

COMPARISON OF NATIONAL INFORMATION POLICIES

The aim of this project is to establish and compare for a number of industrialised countries what their national information policies are. how they are expressed and promulgated, how they were established, where the initiatives and resources for those initiatives came from, and finally how the policies are implemented or enforced. It is realised that in most contries the situation is complex. There are a set of policies corresponding to different facets of the information field and each is likely to be at a different stage of evolution. Therefore, no questionnaire can cater for all the permutations without being impossibly lengthy. You are, therefore, requested to answer the questions in a way which expresses the situation as it really is in your country even if the answers do not precisely match the questions as worded. It is because even a question as apparently simple to answer as 1.a. in some instances needs a paragraph to itself (in the UK for example) that I have not tried to leave enough space to enter answers on the questionnaire.

Also, please do not attempt to distinguish between policies and strategies but treat them as one and the same thing.

1. Where do responsibilities lie for the various components of the information field? If the answer is an agency rather than a Ministry or Government Department, please give the name of the agency and that of the Ministry to which the agency reports.

   a. information policy
   b. libraries
   c. national archives
   d. information technology (ie. promotion of the use of computers, data networks, office technology etc.)
   e. telecommunications (is there just one PTT, or more than one and if so who coordinates policy)
   f. copyright
   g. industrial property information (is the Patent Office responsible for disseminating information and maintaining regional libraries of documents?)
   h. standards for documentation
   i. education and training for librarians and information workers - including manpower planning
   j. information analysis centres, national documentation centres etc.
   k. any other sectors of relevance in your country (please specify)

2. This survey is concerned only with the sector known as scientific and technical information. In the sense in which that term is used in your country does it also include legal, community, social, economic, market or financial information?

3. Does the Ministry/Agency which has responsibility for STI policy have authority over other Ministries or Agencies in respect of their STI activities or how does it carry out its responsibilities? Is there, for example, an Inter-Ministerial coordinating committee and if so who chairs it?

Do information policies in your country treat STI together with

a) mass communication
b) informatics
c) other specialised sectors of information

Alternatively are there divisions of responsibility and if so do they lead to competition/conflict or lack of coordination between the policy sectors?

4. Are there other divisions of responsibility, for example between the national centre, centres in autonomous states, regional or branch centres or between a national centre and sectoral centres. If so, how are the responsibilities defined?

5. Are there separate policies for each sectoral field (ie. one for science, one for industry, one for agriculture etc)?

6. What is the form in which your country's information policy or policies are promulgated?

by legislation, decree, enactment, statute
by official programmes which specify aims, objectives and ways and means
by policy statements
by generalised guidelines
by reports from advisory bodies which by virtue of the status of the body (eg an advisory body to the President or Prime Minister) is treated as a policy statement
by other means (please specify)

7. Please cite the documents of the type or types indicated in question 6 which define, as far as this is feasible, current information policy in your country. Please indicate the body which issued each if this is not apparent in the reference.

8. Do your policies distinguish between and define the responsibilities of the public sector (ie official bodies) and those of the private sector?

9. What do the policies purport to cover?

a. freedom to use published STI
b. encouragement to make maximum use of STI
c. encouragement to create and provide STI resources and services
d. balance between freedom of access to information and privacy
e. limitations on freedom to transmit information
f. transborder data flow
g. provision of library services
h. provision of archives
i. document supply services including defining the balance between copyright owners' rights and ability to make copies.
j. access to official statistics
k. provision of documentation centres
l. provision of information analysis centres or centres of expertise
m. development of an indigenous information industry including promotion and marketing
n. provision of specialised information services
o. tailoring of services to perceived national needs and priorities
p. guiding users to sources
q. education and training of users and/or college students in STI
r. education, training and manpower planning of librarians and information specialists

s. education, training and manpower planning of the so-called emerging information professions (eg. computer scientists, systems designers, communication engineers etc.)

t. inter-relationships between the information industry and the development of the information technology (computer, telecommunications, office technologies) industries

u. economic aspects of the information industry

v. social implications of the information society

x. other policy topics (please specify)

10. Are there any limitations in the forms of published information covered? ie. does it exclude any types of document, microforms, electronic databases, software etc?

11. Do your information policies incorporate or have any consequences for the marketing of information services or the provision of value added services, and if so in what way?

12. Historical development of your information policies.

This is a particularly important part of this survey. Would you please outline the way in which your country reached its present position in regard to the development of its information policies.

Were there significant conferences which produced recommendations and if so which were they and when?

Were there officially commissioned surveys and if so what were they, what was the outcome and what was the nature of the body carrying out the survey?

Were there bodies officially set up and supported to give advice to the Government Department or Agency responsible for policy?

Please include a note of the sources of funding for the survey, committee, conference etc unless it is obvious from its designation.

(For example: in the UK the 1948 Royal Society Scientific Information Conference funded partly by a Parliamentary Grand-in-Aid led to the official Advisory Council for Scientific Policy setting up a sub-committee for scientific information, which recommended during the 1950s the creation of two major science libraries, and then the creation within the Department of Education and Science of the Office for Scientific Information - OSTI - which was assisted in formulating its policies and strategies by the Advisory Council for Scientific and Technical Information - ACSTI - etc etc)

How have STI policies been changed, if at all, as changes of economic, social or political objectives and priorities have occurred? How have new information requirements become apparent and how have they been assessed? For example, has there been an invitation issued for proposals for new information services?

Please note - The provision of a copy of an article, preferably in English, which describes the evolution, or reference to a book which does so, would be entirely acceptable with any updating information needed.

13. Have any policies or plans or programmes been abandoned after being officially adopted or approved and if so why?

Have any official agencies which were set up to deal with STI been disbanded or undergone a major change in responsibilities (eg. OSTI was absorbed into the British Library as its Research and Development Department)?

14. How are current information policies implemented?
What coordinating mechanism(s) have been established and what are their terms of reference? Are there separate coordinating mechanisms for different sectors (eg for large firms and for small ones) or for different service agencies (eg Research Associations or for Chambers of Commerce)?
How are budgetary aspects handled?
How are manpower aspects handled?

15. What significant features of information policy are either under current review or are causing concern because they are in need of review?

16. Is the way current policies and programmes for STI have evolved typical of the planning process in your country? Are there any special characteristics - mechanism or content - which the planning activities for information have?

17. Regional policies.
Does your country participate in a multinational grouping which has an agency catering for the STI field (eg in the European Community which has DG XIII, in the Comecon group which has ICSTI, or in NORDINFO)? If so, how are national information policies affected? Please explain the relationships and especially where the final authority lies should the policies of the international group differ from the national ones.

THANK YOU VERY MUCH FOR YOUR HELP